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THE EDITOR'S PAGE

The Honorable Researcher

There appears to be renewed interest on the part of universities and granting agencies in the refinement of policies and processes related to research ethics and academic fraud. While it is important that measures to prevent and remedy unethical conduct be enacted, publicized and applied, these are no substitute for the *honorable researcher*—one who seeks that “superior prudence” described over 200 years ago by Adam Smith in *The Theory of Moral Sentiments*:

Wise and judicious conduct, when directed to greater and nobler purposes than the care of the health, the fortune, the rank, and reputation of the individual is frequently and very properly called prudence. We talk of the prudence of the great general, of the great statesman, of the great legislator. Prudence is, in all these cases, combined with many greater and more splendid virtues; with valor, with extensive and strong benevolence, with a sacred regard to the rules of justice, and all these supported by a proper degree of self-command. This *superior prudence*, when carried to the highest degree of perfection necessarily supposes the art, the talent, and the habit or disposition of acting with the most perfect propriety in every possible circumstance and situation. It necessarily supposes the utmost perfection of all the intellectual, and of all the moral virtues. It is the best head joined to the best heart. It is the most perfect wisdom combined with the most perfect virtue. (pp. 353-354)

While few of us may attain the goal of superior prudence, its cultivation is central to our individual professional responsibility. It also reinforces the concept of a scholarly community governed more by the quality of researcher character than by organizational rules. Continuing pursuit of such moral nobility requires substantial inner direction. For as Adam Smith further observed:

The man who acts according to the rules of perfect prudence, of strict justice, and of proper benevolence, may be said to be perfectly virtuous. But the most perfect knowledge of those rules will not alone enable him to act in this manner; his own passions are very apt to mislead him—sometimes to drive him, and sometimes to seduce him, to violate all the rules which he himself, in all his sober and cool hours, approves of. The most perfect knowledge, if not supported by the most perfect self-command, will not always enable him to do his duty. (p. 387)

The key to high standards of ethical conduct in educational research lies in each investigator striving to become and to remain honorable.

WHW

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and

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Reading Processes of High and Low Divergent Thinkers

It is frequently assumed that all good readers use the same processes to obtain meaning from print. The reading processes of good readers in grade six were examined to see if the processes of highly divergent thinkers were similar to those who were less divergent thinkers. There was no significant overall difference in the reading processes of the two groups of readers. However, the high divergent thinkers made more explicit and conscious use of their past experiences to remember the written text while less divergent students relied on more structured methods for remembering.

Research on cognitive styles suggests that not all students use the same methods for learning. If this is so, it is likely that readers who are attempting to understand and remember what they read are not all using the same processes. However, much of the research on reading, particularly that on differences between good and poor readers, assumes that good readers are a fairly homogeneous group in terms of the reading processes they employ. This assumption was tested using a sample of 40 grade six students, all of whom were good readers.

The students differed in their ability to think divergently. Divergent thinking is a brainstorming kind of approach to solve a problem for which there is more than one solution or answer. It produces a variety of ideas, all of which are logically possible in view of the given information (Guilford, 1959). Convergent thinking is a focused search to find the one correct or most conventional answer. Guilford viewed the difference between these two productive (or thinking) operations as being relative, as depending on the degree of restraint or limitation on the desired answer

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(Guilford, 1975). The aspect of cognitive style chosen for this study, divergent thinking, was of interest because widely held theories of reading comprehension (Rumelhart, 1977; Rosenblatt, 1978) espouse that readers understand and remember what they read by connecting it with their past experiences. Do people who can produce a lot of ideas (presumably from their past experience) use their past experiences to help them remember what they read? Understanding how different kinds of students comprehend and remember written passages is a necessary prerequisite to the effective teaching of reading.

Divergent Thinking and Reading Comprehension

There has been little research relating cognitive style to reading comprehension. Pitts and Thompson (1982) found that reading comprehension was positively correlated with the following four aspects of cognitive style: 1) the ability to find salient features in a complex field (field independence); 2) being reflective rather than impulsive when faced with uncertainty (conceptual tempo); 3) the tendency to use broad rather than narrow categories; and 4) the ability to attend to relevant but ignore irrelevant stimuli (attentional style). Subsequent research focusing on inferential comprehension led Pitts and Thompson (1984) to conclude that cognitive style is a mediating variable in reading comprehension.

Getzels and Jackson (1962) identified two basic cognitive or "intellective" modes. They theorized that one process represented intellectual acquisitiveness and conformity, and the other intellectual inventiveness and innovation. They placed convergent thinking in the former category and divergent thinking in the latter. Knaak (1983) listed divergent thinking as a learning style.

Early studies found that there was a significant correlation between divergent or creative thinking ability and both reading vocabulary and reading comprehension (Schmadel, 1960; Harootunian, 1966). However later researchers, who studied different aspects of divergent thinking, found that the relationship was more complex than originally thought. Using cloze tests, Byrne, Feldhusen, and Kane (1971) showed that divergent thinking subjects were higher in associational fluency but not higher in expressional fluency or flexibility. However, research by Hatcher and Felker (1974) did not support this view. They found that reading comprehension scores could best be predicted by students' high flexibility and intelligence scores. Turner (1978) found there to be a significant relationship between the production of divergent semantic units and reading comprehension. In most of the research completed on the relationship between divergent thinking and reading, reading comprehension has generally not been measured in a way which would have allowed interpretations regarding reading processes from the data. Only Turner (1978), who used oral recall and miscue analysis, and Byrne et al. (1971), who used cloze procedures, employed measures which could yield data on reading processes. However, they failed to draw interpretations regarding reading processes from their data.

Generally, the results of research on the relationship between divergent thinking and reading are equivocal. It was felt that the lack of clearcut conclusions might be the result of a focus in the research on the product of reading or reading achievement rather than on the processes of reading or how readers go about getting meaning as they interact with print. Hence, the focus of the study reported in this paper was on divergent thinking and reading processes.

Purpose of the Study

The primary purpose of the study was to test whether students who were high in verbal divergent thinking ability used different reading processes than students

who were low in divergent thinking ability. The processes were assessed using oral recall and a sentence verification technique. A secondary purpose was to examine the relationship between scores on divergent thinking and scores on the recall and sentence verification technique tasks. In addition, students were asked interview questions in an attempt to obtain further information about the reading processes they used as they read.

Design of the Study

Selection of the Sample

All the grade six students in seven schools who scored above the seventy-fifth percentile on the Edmonton Public Schools' *Elementary Reading Test* in May of their grade five year were tested for divergent thinking. All parents gave permission for their children to be included in the study. These 73 students were given three of seven questions in the test *Thinking Creatively With Words* (Torrance, 1966). These questions included product improvement (of a stuffed toy elephant), unusual uses (of cardboard boxes), and "just suppose" (If clouds had strings hanging from them down to earth what would be the consequences?). Three components of verbal divergent thinking were scored: fluency (total number of scorable responses), flexibility (number of categories used by the student), and originality (with infrequent or unusual answers receiving more points). The test was shortened to three questions because it was thought that these were adequate to measure the three aspects, and because it was feared that the "fairy tale" looking character involved in three of the other questions would have a negative effect on the grade six boys in the sample. In addition, the school system was concerned about the number of pupil hours required by the research. The three question test was administered in one hour. For each of the 73 students, scores for fluency, flexibility and originality were totaled giving one score for each student. The 20 students who received the highest scores were the high divergent group in the sample. The 20 students who received the lowest scores formed the low divergent group.

Most students were from middle or upper middle class neighborhoods. IQ was measured by the *Canadian Test of Cognitive Abilities* and mean scores for the 20 high divergent and 20 low divergent readers were similar (122.2 for the high divergent group and 122.6 for the low divergent group). The mean percentile scores for the two groups on the *Elementary Reading Test* were also similar (88.4 and 89.1 respectively). The mean scores for the three items on the test *Thinking Creatively With Words*, however, were 124.8 and 65.9 for high and low groups respectively. The range for the low divergent thinking subjects was 36 to 84. The range for the high divergent thinking subjects was 113 to 145. No attempt was made to balance the sample for male and female participants. Sixteen of the 20 high divergent thinkers were female; 14 of the 20 low divergent thinkers were male.

Method

Each student in the sample was individually tested and read a 500 word narrative selection after which he/she gave an oral recall, completed a sentence verification task and answered two questions regarding how he/she read. The recall and oral answers were recorded on tape and later transcribed. The recalls were divided into clausal units and these were classified according to the degree to which they resembled the text and the extent of use of background knowledge (Fagan, 1983; see Appendix A). Because the recalls of the high divergent thinkers were one-fifth longer than the recalls of the low divergent thinkers, mean proportional scores

were compared. Fagan’s categories were also used to construct the sentences for the sentence verification task. This task was designed by Fagan (1982) based on a method devised by Royer, Hastings, and Hook (1979). The test consisted of 18 sentences, two representing correct items from each of Fagan’s six comprehension categories and one sentence from each category which represented an incorrect item. The student was asked to identify those “statements which were true in terms of the story.” Students were also asked two questions: whether they had thought of any past experiences while they were reading the story and whether they had consciously used any method for remembering the story.

Major Findings and Discussion

The two groups were compared on all the categories simultaneously using Hotelling’s multivariate analysis. For both the recall and the sentence verification task data, there was no significant overall difference in the reading processes of good sixth grade readers who were high in divergent thinking ability from those who were low in divergent thinking ability (recall data: $F=1.51$, $df=6,33$, $p>.05$; sentence verification data: $F=1.78$, $df=5,34$, $p>.05$). A major factor which influenced this result was that approximately half the recalls of both groups were in the text specific category (48 percent of the high divergent group and 53 percent of the low divergent group).

In general, results of an analysis using Pearson’s correlation coefficient supported the results of the multivariate analysis as few correlations of scores on divergent thinking with those on the recall and sentence verification tasks were significant. However, there were some significant relationships. The correlation between the Torrance scores and the proportion of recall units in the text experiential category was significant and positive ($r=.40$, $p=.01$) indicating that high divergent thinkers were more likely to produce text experiential recall units than were less divergent thinkers. High divergent readers were connecting their past experiences to the text even though this was not necessary to “fill in the gaps” and this information was not constrained by the text. Also evident was the fact that divergent thinking ability was negatively related to the percentage of clauses in the text specific category ($r=.27$, $p=.05$). This indicated that low divergent thinkers recalled more units that made reference to only one text unit and merely reordered or transformed the lexical items within the unit than did high divergent thinkers.

TABLE 1
Pearson Correlation Coefficients for Torrance Scores
and Recall Categories (Combined Groups)

Recall Category	Correlation Coefficient	P
Text exact	-.03	.42
Text specific	-.27	.05*
Text embedded	.18	.14
Text entailed	-.20	.11
Text inferential	.10	.27
Text experiential	.40	.01*
Text erroneous	.15	.18

* $p \leq .05$

Correlational results on the sentence verification task did not support the results on the recall task. The only significant relationship between Torrance scores and sentence verification scores was on the text entailed category and this relationship was negative ($r = .29, p = .04$). It perhaps reflected the convergent nature of this synthesis task. Readers were required to subsume information from different parts of the text under a superordinate statement and the number of appropriate superordinate statements was extremely limited. It is not surprising that less divergent thinkers did better on this type of task than did high divergent thinkers. Most other correlations between Torrance and sentence verification scores were also negative but these were not large enough to be significant.

TABLE 2
Pearson Correlation Coefficients for Torrance Scores
and Sentence Verification Task Categories (Combined Groups)

Category		Correlation Coefficient	P
Text exact:	A+	-.05	.39
	A-	—	—
Text specific:	B+	-.13	.20
	B-	-.09	.29
Text embedded:	C+	-.19	.12
	C-	.14	.19
Text entailed:	D+	-.29	.04*
	D-	-.12	.24
Text inferential:	E+	.21	.10
	E-	—	—
Text experiential:	F+	-.11	.26
	F-	-.12	.22

Note: — Could not compute because all subjects obtained the correct answer.

* $p < .05$

Since the Hotelling's results were similar for the recall and sentence verification tasks, it appears that both provide a global measure of reading processes. However, when specific sentence verification and recall categories were correlated with Torrance scores, it appeared that the two tasks may not always measure the same processes. The recall task was the more open-ended of the two tasks, requiring the reader to provide his/her own structure, and also was a more risk-taking activity. The sentence verification technique was more structured, and therefore a more convergent type of activity. These differences in tasks were reflected in the relative performance of the high and low divergent thinkers. High divergent thinkers generally gave longer and more complete recalls on the unstructured recall task; less divergent readers tended to perform better on the structured sentence verification task.

The descriptive data provided additional information, confirming use of past experience by high divergent readers. Three-quarters of the high divergent readers but only just over one-quarter of the less divergent readers said that they connected the story with their past experiences. However, not all the high divergent readers

used their past experiences in the same way. Of the 15 high divergent students who used association, five were analytical and critical (that is, they judged the character in the story or the story itself); five were analytical but nonjudgmental and elaborated using a psychological type of approach (usually in an attempt to explain why the character in the story acted as he did); and the six others made associations but were not analytical. In contrast, more low divergent than high divergent students were conscious of using a structured method to help them remember the story. Eleven of the 20 indicated that they read carefully or slowly or reread, while only five of the high divergent readers mentioned using these techniques.

Implications of the Study

In relation to reading theory, it appears that the reading processes of both high and low divergent thinkers are consistent with an interactive theory of reading processes. All readers in the study relied on both text information and background knowledge as they read. In the recall of both groups of good readers, approximately half of the units recalled involved a paraphrase of information from the text indicating that all subjects were able to make meaningful associations to text information. However, the significant relationship between scores on divergent thinking and recall units in the text experiential category indicated that the more divergent the thinker, the more likely he/she was to extend the association process by explicitly using past experiences to elaborate on text information. Also, the high divergent readers were conscious of their use of background knowledge. It was particularly evident that they elaborated more on the text and this appeared to be a method of remembering it. On the other hand, lower scores on divergent thinking were related with higher scores on making associations closely linked to the text itself.

The results of this study also have implications for the assessment of reading comprehension. As different tasks favor different cognitive styles, care must be taken that any test results are actually indicative of the processes one is attempting to measure, not a measure of the cognitive style of the testee. As almost any approach will favor a certain cognitive style, a well balanced testing device might combine a variety of approaches. The results of each test must be carefully weighed to assess the influence the structure of the task has on the results.

Several implications can be drawn for the teaching of reading from the results of this study. Generally, it appears that there are sufficient similarities between high and low divergent thinkers in how they read that little differentiation in basic instruction on reading comprehension for the two groups is required. However, there are some areas in which differentiation might be desirable. High divergent readers appeared to be able to provide the structure to remember what they had read, since their recalls were generally longer than those of low divergent readers. It was the low divergent readers who performed better when provided with the structure of the sentence verification task. Also, many low divergent readers indicated that they used structured methods such as rereading to help recall text materials. However, since their unaided recalls were not as complete as those of high divergent readers, they may need to develop a more extensive repertoire of strategies for remembering what they read. Teaching these conscious strategies to less divergent thinkers might result in improvement in reading comprehension scores, at least in the short term. This does not preclude attempting to enrich the life experiences of both groups of readers to give more experiences to which the reader can associate the written text. Witkin (in Guilford, 1980) found that as children grow older they move toward the field-independent end of the field-dependent/field-independent scale. Possibly

readers become more divergent, or at least better able to handle divergent tasks, as they gain in the number of past experiences, develop more independence and/or more self-confidence.

Understanding the basic methods of thinking of a reader makes it possible to help him/her make most efficient use of the cognitive style with which he/she is most comfortable and therefore uses most frequently. But there is also good reason to teach a learner to handle tasks which require an alternate learning style, because increased adaptability and versatility is a decided advantage as different approaches are effective for different types of tasks.

APPENDIX A

Recall Categories (Fagan, 1983)

- A. *Text Exact*: This category includes information from the text in its exact form or with minimal variations, such as substituting “a” for “the.” The recall data suggest that the reader has made an “exact association” with input data.
- B. *Text Specific*: In this category is placed information that has specific references within a single text unit. The information within the unit may have been reordered or transformed with different lexical items and suggests the reader is associating—transforming.
- C. *Text Embedded*: The information in this category is also specific to the text but the unit of recall includes information from more than one unit of the text, that is, data from one unit are embedded in another in a fairly specific manner. The reader may be considered to be synthesizing—embedding.
- D. *Text Entailed*: The retrieved information consists of a superordinate statement that subsumes information from more than one unit of the text. It may be assumed that at the time of comprehending, the reader “constructed” information or that the reader “reconstructed” information at the time of recall. The reader may be synthesizing—constructing.
- E. *Text Inferential*: The information assigned to this category has been added by the reader to fill in gaps in the text data and is derived from knowledge schemas of world events. Unlike synthesizing—constructing, inferring does not generate a new framework or construct for the existing text data but bridges a gap between data as presented by the author.
- F. *Text Experiential*: Like inferential data the information assigned to this category, while related to the text, is generated from the reader’s schema. Unlike inferential data, experiential data are not constrained by the text and may be idiosyncratic to the reader’s experiences; that is, the reader is embellishing or elaborating. The processing may be labeled associating—elaborating.
- G. *Text Erroneous*: This category contains information that is erroneous in the sense that it contradicts or is inconsistent with text data or is inaccurate in terms of world knowledge.

References

- Byrne, M. A., Feldhusen, J. F., & Kane, R. B. (1971). The relationship among two cloze measurement procedures and divergent thinking abilities. *Reading Research Quarterly*, 6(3), 378-393.
- Canadian Cognitive Abilities Test*. (1973). Scarborough, ON: Nelson.
- Elementary Reading Test: Grade Five*. (1979). Edmonton: Edmonton Public Schools.
- Fagan, W. T. (1982). *The sentence category verification technique for assessing output in a silent reading mode*. Unpublished manuscript, University of Alberta, Edmonton.

- Fagan, W. T. (1983, November). *Recall differences between sixth grade high and low readers*. Paper presented at the meeting of the National Council of Teachers of English, Denver.
- Getzels, J. W., & Jackson, P. W. (1962). *Creativity and intelligence: Explorations with gifted students*. New York: John Wiley and Sons.
- Guilford, J. P. (1959). Three faces of intellect. *American Psychologist*, 14, 469-479.
- Guilford, J. P. (1975). Creativity: A quarter century of progress. In I. A. Taylor & J. W. Getzels (Eds.), *Perspectives in creativity* (pp. 37-59). Chicago: Aldine.
- Guilford, J. P. (1980). Cognitive styles: What are they? *Educational and Psychological Measurement*, 4, 715-735.
- Harootunian, B. (1966). Intellectual abilities and reading achievement. *Elementary School Journal*, 66, 386-392.
- Hatcher, C. W., & Felker, D. W. (1974, May). *The interrelationships of measures of convergent thinking and self-concept to upper grade reading achievement*. Paper presented at the Annual Meeting of the International Reading Association, New Orleans. (ERIC Document Reproduction Service No. ED 092 883)
- Knaak, W. C. (1983). *Learning styles: Applications in vocational education* (Information Series No. 254). Columbus, OH: The National Centre for Research in Vocational Education, Ohio State University.
- Pitts, M. C., & Thompson, B. (1982, February). *The influence of children's cognitive styles on reading comprehension*. Paper presented at the annual meeting of the Southwest Educational Research Association, Austin, TX. (ERIC Document Reproduction Service No. ED 223 996)
- Pitts, M. C., & Thompson, B. (1984). Cognitive styles as mediating variables in inferential comprehension. *Reading Research Quarterly*, 19(4), 426-435.
- Rosenblatt, L. M. (1978). *The reader, the text, the poem: The transactional theory of the literary work*. Carbondale and Edwardsville: Southern Illinois University Press.
- Royer, J. A., Hastings, C. N., & Hook, C. (1979). *A sentence verification technique for measuring reading comprehension* (Technical Report No. 137). Urbana: University of Illinois, Center for the Study of Reading.
- Rumelhart, D. E. (1977). Toward an interactive model of reading. *Attention and Performance IV* (Proceedings of the Sixth International Symposium on Attention and Performance, Stockholm, Sweden, 1975). Hillsdale, NJ: Erlbaum Associates.
- Schmadel, E. (1960). The relationship of creative thinking abilities to school achievement. *Dissertation Abstracts International*, 21, 1464-1465.
- Torrance, P. E. (1966). *Torrance tests of creative thinking: Thinking creatively with words (Form A)*. Princeton: Ginn.
- Turner, Y. L. (1978). *Right brain versus left brain in assessing verbal abilities*. Paper presented at the Annual Meeting of the California Reading Association, San Francisco, California. (ERIC Document Reproduction Service No. ED 169 472)
- Witkin, H. A., Moore, C. A., Goodenough, D. R., & Cox, P. W. (1977). Field-dependent and field-independent cognitive styles and their educational implications. *Review of Educational Research*, 47(1), 1-64.

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Variables Which Influence Student Teacher Behavior: Implications for Teacher Education

This study explored variables which influence the instructional behavior of student teachers during elementary school physical education classes. Nine categories of variables influencing student teacher behavior were found. Major findings were: (1) no single variable could explain student teacher behavior; (2) student teachers could recall, relate, and justify decisions; (3) the level and experience of pupils was consistently among the top three variables influencing behavior; (4) different variables influenced different phases of the teaching process; (5) student teachers' ideas, beliefs, and characteristics influenced all phases of the teaching process; and (6) usually, more than one variable influenced a teaching behavior. Teacher educators need to develop skills to aid student teachers to identify, analyze, and evaluate variables which influence their teaching behavior.

We rarely question our everyday, routine behavior. The day to day act of teaching may seem to be ordinary, practical, and unremarkable; but what may be seen as typical or unexceptional can be complex and multidimensional. Little is known about the development of teacher behavior or variables which influence it. Witherell and Erickson (1978) note that the teacher's own development has been overlooked in educational research. Fedigan (1980), in summarizing his review of the literature on classroom management, indicated that there is need for research exploring the complex relationship among variables within the teaching act. Crocker (1984) states that it is surprising how infrequently research on teaching has addressed the question "Why?". Crocker (1983, 1984) outlines a shift in focus in research on teaching from *how* classrooms function, to *why* they function as they do. He proposes that research based on "why" will result in "functional paradigms" of teaching.

This study explored variables which influence student teacher behavior in elementary school physical education classes. Eleven elementary education students in

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their fourth year practicum experience were asked: "Why did you behave the way you did?" The question was open-ended so that the many-faceted nature of teacher behavior could become more understandable. In keeping with the views of authorities such as Dallmayr (1973), Vandenburg (1974), and Wilson (1977), the intent of the study was to describe and interpret, rather than to explain or test a hypothesis. The purpose of the study was to describe variables to which student teachers attributed their behavior.

Conceptual Framework

The conceptual framework developed for this study follows the tradition initiated by Kurt Lewin (1951) in his "cognitive field theory" in which behavior is viewed as a function of personality and environment. After a review of existing teaching-learning process models, three broad categories were selected for the framework: (1) context, (2) interactive process variables, and (3) teacher characteristics.

Context was defined as variables which constrained the teaching-learning process but were not under the direct control of the teacher, for example: pupil behavior, official curriculum, equipment/facilities, and time. Interactive process variables included observable incidents which were under the direct control of the teacher, for example: time allocation, instructional techniques, pupil organization, and curriculum decisions. Teacher characteristics included all experiences prior to the teaching learning process which contributed to the development of the teacher, for example: home life, teaching experience, beliefs and values, and teacher education.

Barker (1978a) observes that "behavior and environment are inexorably continuous in time" (p. 3). When examining human behavior a researcher cannot ignore the setting in which it occurs (Chamberlin, 1974; Bogdan & Biklen, 1982). Ecological psychologists, utilizing observable behavior and behavioral habitats to examine human behavior, focused on what settings do to people (Barker, 1978b).

General models, such as the one described by Dunkin and Biddle (1974), identify teacher variables, teacher/student classroom behavior, environment, and pupil achievement or product, as broad classes of variables which impinge on the teaching-learning process. The perspective proposed for this study deviates from more general models by categorizing pupil behavior, pupil characteristics and pupil achievement as contextual variables. Because this study focused on student teacher behavior and variables which influenced it, any pupil-related variables were classified as part of the environment for teachers.

Shulman and Lanier (1977), Shavelson (1980), Connors (1978), and Tuckwell (1980a) focused their research on teachers' thought processes during instruction, theorizing that how teachers behaved was affected by what they thought. Such research assumed that subjects are willing and able to both recall and relate their thought processes. While recent research has focused on thought processes during the interactive phase of teaching, the framework for this study accounted for thought prior to the instructional period. The benefit of this approach was suggested by Connors (1978) who concluded that other variables, such as values and personality, were intrusive and influenced behavior. While these variables may not be recalled as conscious thought during the interactive phase, they may be articulated as being influential by the subject.

The perspective for this study most closely resembles that proposed by Ryans (1963) who described three categories: external information, information processing during the interactive phase, and internal information and capabilities. Ryans'

model was based on systems theory where teachers were seen as an “open, self-organizing and self-regulating system” bounded by their capabilities, characteristics and the situation in which they were operating (Ryans, 1963, p. 31). Ryans theorizes that information processing culminates in observable overt behavior. However, the perspective for this study deviated from Ryans’ model by: (a) including decision-making prior to the instructional event, (b) not presupposing a sequence of behavior, and (c) having variables under the direct control of the teacher as a major category.

The framework proposed includes three aspects of traditional research on teacher decision-making: teacher characteristics, environment, and thought processes. The perspective constitutes a working model only and was presented to familiarize the reader with how the research strategy was formulated. It was not presented as a model to be verified. The framework was used as a basis for defining the research problem, developing the research methodology, and guiding initial observations and interviews. It was not used for data analysis. Only after the data were collected, analyzed, and interpreted, was existing research again consulted to ascertain if it could add anything to the discussion.

Method

The methodology for this study was qualitative. A multi-instrument approach (using observation, field notes, interviews, and written surveys) was employed to collect data. To ensure multiple perspectives, a variety of research techniques were used and other people (including the subjects themselves and four doctoral students) collaborated in data analysis and interpretation. Content analysis and category development were used to analyze data. A description of the process follows.

Sample

Eleven fourth-year University of Alberta elementary education students in their final practicum experience volunteered to participate in the research. Nine were female and two were male. Teaching assignments ranged from Kindergarten to Grade Six. Each participant signed a release form which assured confidentiality, the nonevaluative nature of the research, and the right to withdraw from the study at any time.

Procedure

When the aim of research is to describe and understand human behavior from the perspective of the subjects of the inquiry, a qualitative methodology is appropriate. Denton (1981) describes the purpose of qualitative research as the examination of the total configuration of actions (including behavior, motive, and purpose or intent). Bogdan and Biklen (1982) state that “the qualitative research approach demands that the work be approached with the assumption that nothing is trivial, that everything has the potential of being a clue which might unlock a more comprehensive understanding of what is being studied” (p. 28). Since the purpose of this study was to describe student teacher behavior and explore reasons for that behavior in order to gain an understanding of student teacher decision-making, a qualitative design was used.

Each student teacher was observed teaching three physical education lessons. Field notes recorded events pertaining to instructional techniques, pupil organization, time allotment, organization of equipment/material, environment, curriculum

decisions, personal behavior of both teachers and students, and pupil responses. Anecdotal notes attempting to derive meaning from observations were recorded at the same time. Field notes were in chronological order of events to aid the student teacher to recall specific incidents by relating what happened prior to, and following, the event to be recalled.

Participants were interviewed after each observation. Field notes were used to stimulate recall of specific behaviors and their possible cause(s). Student teachers were encouraged to use introspection to analyze their own behavior. The purpose of the interviews was to have the student teacher reflect upon and identify variables which influenced their choice of teaching behavior. Interviews were audiotaped and transcribed for use as data. Transcripts were returned to participants for verification as a valid representation of their perceptions of variables which influenced their teaching behavior. Subjects also received a copy of the list of variables which were extracted from the interview transcripts. Student teachers were asked to choose and rank the ten variables they saw as having the greatest influence upon their behavior.

Content analysis procedures, as outlined by Barrington (1981) and Conners (1978), were used. Each transcript was analyzed segment by segment, where a segment was defined as a set of exchanges between the interviewer and interviewee. Variables were unitized by bracketing them. Taba, Levine, and Elzey (cited in Tuckwell, 1980b) and Conners (1978) define a unit as a remark or series of remarks which express an idea or serve a function. For the purposes of this study, a unit was defined as a remark(s) which the subjects attributed as being a reason for, or influence on, their behavior. If a unit was repeated, it was listed once, but a record of the number of occurrences of that unit was kept. Analysis of interview transcripts identified 2,559 reasons for, or influences on, student teacher behavior. Student teachers' responses ranged from specific answers such as "Tom forgot his shoes," to beliefs such as "children need to be creative," to pragmatic concerns such as "school procedures and policy," to emotional responses such as "I was angry." The list of variables was probably not exhaustive since the last two student teachers interviewed added 35 and 41 units respectively to the list of all reported influences. Responses, however, did begin to fall into patterns and were sorted into 77 variables by grouping items judged to be related. Two doctoral students familiar with the use of content analysis and category systems verified the sorting of units. The list of 77 variables was then used for the development of categories.

Guetzkow (1950) indicates that the purpose of developing categories is to identify classes or pigeon holes into which the units of a content analysis can be placed. Because no *a priori* theoretical construct was used for categorization, the categories emerged, as opposed to being imposed on the data. Guba and Lincoln (1981) claim that *a posteriori* category development is advantageous because it guarantees that the categories will be grounded in the data. MacKay and Marland (1980) and Guba and Lincoln (1981) contend that when there are not norms for classification, the development of categories is often done on a trial and error basis. The development of categories was therefore a function of the data and intuition.

Procedures outlined by Tenove (1982), Guba and Lincoln (1981) and Barrington (1981) were used for the development of categories. The 77 variables were put on index cards. Essential features and relationships between content characteristics were identified and discussed by two doctoral students and the researcher. The cards were then independently sorted into large categories and labeled. Using the suggestions and descriptions provided by the analysts, 12 categories were identified.

The variables and their classifications were discussed and regrouped until each unit could be logically accounted for, resulting in the number of categories being reduced to nine. Definitions were then developed for each category. To establish objectivity and reliability of categories, two other doctoral students and two participants sorted the 77 variables into the nine categories. A Scott's coefficient ranging from .72 to .91, with an average of .85, was achieved. This result was considered acceptable since it surpassed the suggested minimum level of .70 (Tuckwell, 1980b). Intra-researcher objectivity and reliability was calculated using Scott's coefficient with a perfect correlation of 1.00 recorded.

To establish research rigor, methods described by Guba and Lincoln (1981) to enhance credibility, dependability, applicability and confirmability were used. The following steps were taken to meet tests of rigor: each participant had the opportunity to confirm that interviews and variables extracted represented the factors that influenced their behavior; each subject was observed and interviewed three times; a variety of data sources were used; detailed records of field notes, interviews and written responses were kept; four doctoral students and the subjects themselves corroborated the evidence and analysis; and the same four doctoral students, two participants, and the principal researcher were used in content analysis and development of categories.

Results

A description of each of the nine categories follows. Each description includes a definition and examples. Rank ordering of categories based on the proportion of tallies falling in each category, and then based on the participants' perception of variables having the greatest influence, is then reported.

Planning and Management

The category "planning and management" included student teacher behaviors and decisions regarding classroom management, organization of students and content, and lesson/unit planning. Examples are: grouping of students, efficient use of time, and keeping students on task.

Teacher Behavior/Response

"Teacher behavior/response" was defined as student teacher behaviors or responses during the instructional period; things the teacher did with or to students. Examples are: giving reinforcement, explaining, and providing review and closure.

Pupil Behavior/Response

"Pupil behavior/response" included pupil behaviors or responses which occurred during the lesson. Examples are: child disrupting class, children giving appropriate response, and children couldn't answer the question.

Environment

"Environment" comprised the environment or setting in which the interaction occurred; factors which surrounded the situation. Examples are: resources available, limited time, and size of group.

Supervisory Personnel

“Supervisory personnel” was defined as people who were interacting with the student teacher (not including pupils). Examples are: cooperating teacher, faculty advisor, and people observing.

Teacher’s Ideas, Beliefs and Characteristics

“Teacher’s ideas, beliefs and characteristics” encompassed student teachers’ attitudes, attributes, and expectations concerning themselves, the children, the curriculum, and the learning environment, that they brought to the instructional situation. Examples are: beliefs concerning the way to educate children, physical and emotional status of student teacher, and beliefs concerning what children should know.

Teacher Experiences

“Teacher experiences” incorporated things student teachers encountered or experienced prior to the teaching incident that influenced their behavior. Examples are: university education, previous experience with children and content, and previous teachers who have been role models.

Children’s Attitudes, Characteristics and Experiences

“Children’s attitudes, characteristics and experiences” included pupils’ attitudes, attributes, and experiences that they brought to the instructional situation. Examples are: children’s level and experience, children’s work habits, and children’s emotional status.

Characteristics and Goals of the Curriculum Content

“Characteristics and goals of the curriculum content” was defined as objectives, purposes, features, aspects, or attributes of the content, lesson, or activity. Examples are: sequence and progression of material, complexity of material, and lesson objective or topic.

On the basis of the proportion of tallies falling in each category the categories were ranked as follows:

1. Characteristics and goals of the curriculum content (19.5 percent)
2. Teacher’s ideas, beliefs and characteristics (16.9 percent)
3. Teacher behavior/response (16.6 percent)
4. Planning and management (12.9 percent)
5. Pupil behavior/response (9.5 percent)
6. Environment (8.1 percent)
7. Children’s attitudes, characteristics and experiences (7 percent)
8. Teacher experiences (6.5 percent)
9. Supervisory personnel (3 percent)

When the categories were ranked based on the ten variables identified by student teachers as being the most influential on their teaching behavior, the following ranking resulted:

1. Environment (20 percent)
2. Teacher’s ideas, beliefs and characteristics (17.27 percent)
3. Characteristics and goals of the curriculum content (15.45 percent)

4. Children's attitudes, characteristics and experiences (13.64 percent)
5. Teacher experiences (10 percent)
6. Planning and management (9.1 percent)
7. Supervisory personnel (8.18 percent)
8. Pupil behavior/response (4.54 percent)
9. Teacher behavior/response (1.82 percent)

When just the top three variables listed by the student teachers were considered, the nine categories were ranked as follows:

1. Children's attitudes, characteristics and experiences (33.33 percent)
2. Teacher's ideas, beliefs and characteristics (24.24 percent)
3. Environment (15.15 percent)
4. Teacher experiences (12.12 percent)
5. Supervisory personnel (9.1 percent)
6. Characteristics and goals of the curriculum content (3.03 percent)
7. Pupil behavior/response (3.03 percent)
8. Planning and management (0 percent)
9. Teacher behavior/response (0 percent)

All eleven student teachers listed "children's attitudes, characteristics and experiences" in the top three variables which influenced their teaching behavior in elementary school physical education classes. Both "characteristics and goals of the curriculum content" and "pupil behavior/response" were recorded in the top three by one student teacher each. "Teacher behavior/response" and "planning and management" were never listed in the top three influential variables by any student teacher.

Findings and Implications

Data analysis resulted in six major findings. A description of each finding and implications for teacher education follows.

Teaching is a Complex Phenomenon

Student teacher behavior involved complex interactions and patterns. No single category was seen as sufficient to explain the influences on student teacher behavior. A more complete picture of the influences on student teacher behavior can be developed if all nine categories are considered. When variables were categorized, it was found that ten subjects identified variables influencing their behavior in each of the nine categories, while one subject identified variables in eight categories. Conners (1978), Fedigan (1980), and Shulman and Lanier (1977) agree that teacher behavior appears to be complicated and involves intricate relationships. Examining one aspect of teacher behavior, while excluding others, gives a one-sided perspective to student teacher behavior.

Educational research tends to delimit research problems and concentrate on a single aspect of teacher behavior. This may be a factor in explaining why results have often appeared to be inconclusive. Guba and Lincoln (1981) assert that "discrete variables and their relationship do not seem to be sufficient to deal with the complex interactions and patterns of human behavior" (p. 81). It would seem that the design for research on teacher behavior should, ideally, account for as many of the variables which influence the teaching process as possible, thereby avoiding oversimplification of the problem.

Personnel involved in teacher education should be made more aware of the complexity of student teacher behavior to better assist in the professional development of teacher education students. Such awareness could also help faculty, supervisors, cooperating teachers, and student teachers better analyze and understand teaching behavior.

If one accepts the premise that learning involves behavior change, then attention should be directed to student teachers' implementation of theory and resultant change(s) in teaching behavior. The instruction a student receives in university is but one influence on teaching behaviors exhibited in the classroom. Teacher education program effectiveness depends, in part, on how successful the change process has been in helping the student develop congruence between theory to be learned and other variables (such as beliefs, personality, previous learning, and experience) that influence behavior. This awareness may increase the student teacher's ability to integrate theory and practice. The use of introspective techniques (reflection) throughout the teacher education program can aid in identification, analysis, synthesis, and evaluation of variables which influence teaching behavior.

Teachers Can Recall Decisions

The student teachers in this study were aware of why they behaved the way they did and were willing to relate this to the researcher. In only a few cases were the student teachers unable or unwilling to pinpoint the reason for, or influence on, their behavior. Marland (1977), Connors (1978), Tuckwell (1980a), and others cited in Clark and Yinger's (1977) review of research on teacher thinking, used introspective techniques based on the assumption that people make decisions regarding their behavior which they attempt to recall, relate and justify. Results of this study indicated that this assumption is justified.

Student teachers make decisions regarding their behavior, but the variables which influence these decisions may remain covert or hidden. Ericsson and Simon (1984) describe long-term memory as "an enormous collection of interrelated nodes" (p. 13). Recall of what influenced decisions and behavior may not be immediate. A series of probes or cues may be needed to access pertinent information. Introspective techniques, such as interviews and stimulated recall, attempt to facilitate student teacher's recall of covert thoughts. The meaning and intent of the behavior is drawn from the student teacher.

The cooperating teacher and faculty advisor can help the student teacher identify these variables. As student teachers become more aware of the factors influencing their choice of behaviors, they become better able to adapt their behavior. They are also more likely to select behaviors more appropriate for learners, curriculum content, and school/classroom environment. That is, professional decision-making capability may be enhanced. Student teachers should also learn how to cope with inappropriate influences on their behavior. Shultz (1983) points to the importance of self-awareness and critical analysis in providing student teachers "with skills necessary to make sense of what is happening to their own classrooms" (pp. 15-16).

Analysis of variables influencing teaching behavior becomes particularly important during the practicum and/or internship portion of professional preparation. An explanation of the meaning and intent of student teacher behavior, from the perspective of the student teacher, during the supervisory cycle may result in more effective supervision and a more in-depth evaluation of student teachers. Once variables are identified, the student teacher, in consultation with the cooperating teacher and faculty advisor, should analyze and assess the appropriateness of the influ-

ences on instructional decisions and the teaching behaviors selected. Introspective techniques are likely to help student teachers make more appropriate instructional decisions because they will have examined what influenced past teaching behaviors and instructional decisions, and what may influence them in the future. Strategies, then, should be identified that are likely to result in desired maintenance or alteration of those variables.

Pupils are an Important Variable

When student teachers were asked to rank the top ten variables that influenced their teaching behavior, "children's level and experiences" was the only element reported by all eleven as being among the top three influential variables. This supports the results of Crocker's (1984) review of the literature where student characteristics was one of the fundamental elements of teacher functioning. Crocker and Banfield (1985) also found that characteristics of students influenced teacher decisions.

During preservice education, careful attention should be given to making education students aware of the growth and development characteristics of school-aged children and implications for teaching. Student teachers should also learn to evaluate pupil readiness and previous learning before lessons are planned and implemented. Careful evaluation of student learning outcomes should also be emphasized in order to facilitate further planning.

Crocker (1984) and Crocker and Banfield (1985) found that inservice teachers were concerned about teaching methods: skills and techniques. When student teachers were asked to rank order influential variables, "teacher behavior/response" was ranked last, although it ranked third on the basis of proportion of tallies falling in each category. It is apparent that student teachers often cite their instructional technique as influencing decisions, but they may not have yet internalized that teaching method is an important professional concern.

Variables Influencing Phases of Teaching

Different variables appeared to influence the interactive and non-interactive phases of the teaching process. The primary influences on the interactive phase were not the same as those during the non-interactive phase. The finding that different variables have varying importance at different stages of the teaching process was consistent with the findings of Clark and Yinger (1977).

When faculty advisors, cooperating teachers, and student teachers examine the influences on instructional behavior, all phases of the process (not just the interactive phase) must be reviewed. One implication for educational practice is that the variables which influence non-interactive decisions may not be appropriate for decision-making during the interactive phase. Student teachers must learn what influences, and what should influence, their decisions (and when) during the instructional process. This variation in focus is likely to improve planning, implementation and evaluation.

Further research needs to be initiated to identify what influences different phases of teaching at both the preservice and inservice levels. Current research has focused on influences on thoughts and actions during the interactive phase. Attention needs to be focused on what influences planning decisions and lesson evaluation. This more inclusive view of the teaching process may aid in improving teacher preparation programs and instructional practice.

Beliefs are Powerful Determinants

The only category given priority in all phases of the teaching process was "student teacher's ideas, beliefs and characteristics." Wahlstrom, Jones, and Regan (1978), Crocker (1983) and Clark and Yinger (1977) also concluded that teacher beliefs were powerful determinants of teacher behavior.

This suggests that education students should use introspection during their preservice education to examine their teaching beliefs and the values upon which these beliefs are based. Teacher educators should take the time to help students analyze and develop their philosophy of teaching. Learning may be facilitated if theory and skills to be learned are congruent with student teachers' beliefs. If students do not believe something to be important, they probably will not use it, or teach it. One of the keys to putting theory into practice is helping student teachers internalize the importance of what they are being taught, and the importance it will have to the pupils they will teach.

The importance of congruence between what is to be learned and teacher beliefs cannot be overstressed. If what is to be learned about is not congruent with the learner's beliefs about what is important, then new material and ideas will probably not be internalized. Crocker (1983) states that "conventional wisdom holds that teachers are, in fact, little influenced by teacher education, and are more likely to teach as they themselves were taught" (pp. 358-359). He goes on to say that theory to be learned is often in conflict with established teaching principles. Research needs to address how this change in perspective may, if at all, be brought about. The relationship between student teacher beliefs and the acquisition of new knowledge about teaching needs to be investigated.

Multiplicity of Variables

Normally, more than one variable was reported as influencing a particular teaching behavior. The variables reported as influencing a behavior appeared to be recalled in the order of how direct a relationship the variable had to the specific behavior observed. Brophy (1979) supports the view of a multiplicity of influential variables when explaining reasons for specific teaching behaviors. Bronfenbrenner (1979) affirms that variables which influence a specific teacher behavior go beyond the immediate setting. Gurwitsch (1964), in his field of consciousness theory, contends that the human mind attends to more than one thing at a time. Many variables, he says, influence behavior and are retained as "co-present" data. Such data influence the decision to undertake a certain behavior even though they do not occur simultaneously with the decision. Student teacher behavior is not only influenced by thoughts which occur simultaneously with the decision to undertake a certain behavior, it is also influenced by variables not recalled as a conscious part of the decision.

This implies that when introspective techniques are used to identify covert mental thoughts associated with an event, probing must be used to uncover those other variables which influenced that behavior, rather than just those that occurred simultaneously with the event. Ericsson and Simon (1984) caution that retrospective probing may not only retrieve information attended to at the time of the incident, but other information thought about prior to or after the incident. Student teachers must be encouraged to think carefully about the behavior or decision. The supervisor must be sensitive to the student teacher's feelings and use meaningful feedback, cues and probes to aid in recalling information. Housego and Grimmett (1983) state that supervisors should choose their supervisory style "ac-

cording to the specific variables operative at the time" (p. 334). This emphasizes the need to train cooperating teachers and faculty advisors in effective supervisory practices.

Conclusions

Teaching is a complex process involving many variables. Self-awareness and analysis of variables influencing the process are important for student teacher development. The use of introspection facilitates this process. Since variables may remain covert, supervisors need to develop skills in probing and providing retrieval cues. As student teachers develop an awareness of variables which influence their behavior, they should be better able to identify suitable teaching behaviors which are more appropriate for the children, curriculum content, and environment with which they interact.

This study points to the need for further research on influences on student teacher decision-making. The relationship between student teacher beliefs and the acquisition and application of knowledge in teacher education programs needs to be explored. In addition, variables which influence decision-making in different phases of the instructional process need to be identified for both inservice and preservice teachers.

References

- Barker, R. (1978a). Streams of individual behavior. In R. Barker et al. (Eds.), *Habitats, environments, and human behavior* (pp. 3-16). San Francisco: Jossey-Bass.
- Barker, R. (1978b). Return Trip, 1977. In R. Barker et al. (Eds.), *Habitats, environments, and human behavior* (pp. 285-296). San Francisco: Jossey-Bass.
- Barrington, G. (1981). *The impact of environmental forces on Alberta community colleges 1980-1990*. Unpublished doctoral dissertation, University of Alberta, Edmonton.
- Bogdan, R., & Biklen, S. (1982). *Qualitative research for education: An introduction to theory and methods*. Boston: Allyn & Bacon.
- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge: Harvard University Press.
- Brophy, J. (1979). *Teacher behavior and its effects* (Occasional Paper No. 25). East Lansing: Institute for Research on Teaching, Michigan State University.
- Chamberlin, J. (1974). Phenomenological methodology and understanding education. In D. Denton (Ed.), *Existentialism and phenomenology in education* (pp. 119-138). New York: Teachers' College Press.
- Clark, C., & Yinger, R. (1977). Research on teacher thinking. *Curriculum Inquiry*, 7(4), 279-304.
- Connors, R. (1978). *An analysis of teacher thought processes, beliefs and principles during instruction*. Unpublished doctoral dissertation, University of Alberta, Edmonton.
- Crocker, R. (1983). The functional paradigms of teachers. *Canadian Journal of Education*, 8(4), 350-361.
- Crocker, R. (1984). *Elements of teacher functional paradigms*. Paper presented at the Conference on Research on Teaching and Teacher Education, Vancouver, BC.
- Crocker, R., & Banfield, H. (1985). Factors influencing teacher decisions on school, classroom and curriculum. Paper submitted to the *Journal of Research in Science Teaching*.
- Dallmayr, F. (1973). Phenomenology and social sciences: An overview and appraisal. In D. Carr & E. Casey (Eds.), *Explorations in phenomenology* (pp. 133-166). The Hague: Martinus Nijhoff.

- Denton, D. (1981, May). Understanding the life world of the counselor. *Personnel and Guidance Journal*, 59, 596-599.
- Dunkin, M., & Biddle, B. (1974). *The study of teaching*. New York: Holt, Rinehart & Winston.
- Ericsson, K., & Simon, H. (1984). *Protocol analysis: Verbal reports as data*. Cambridge: Massachusetts Institute of Technology.
- Fedigan, L. (1980). *Classroom management and achievement: A review of the literature*. Edmonton: Planning and Research Branch, Alberta Education.
- Guba, E., & Lincoln, Y. (1981). *Effective evaluation*. San Francisco: Jossey-Bass.
- Guetzkow, H. (1950). Unitizing and categorizing problems in coding qualitative data. *Journal of Clinical Psychology*, 6, 47-57.
- Gurwitsch, A. (1964). *The field of consciousness*. Pittsburgh: Duquesne University Press.
- Housego, B., & Grimmett, P. (1983). The performance-based developmental debate about student teaching supervision: A typology and tentative resolution. *The Alberta Journal of Educational Research*, 29(4), 319-337.
- Lewin, K. (1951). *Field theory in social science*. New York: Harper.
- MacKay, D., & Marland, P. (1980). *Thought processes of teachers* (Occasional Paper Series Research Report No. 80-1-10). Edmonton: Centre for Research in Teaching, Faculty of Education, University of Alberta.
- Marland, P. (1977). *A study of teachers' interactive thoughts*. Unpublished doctoral dissertation, University of Alberta, Edmonton.
- Ryans, D. (1963). *An information-system approach to theory of instruction with special reference to the teacher*. Santa Monica: System Development Corp.
- Shavelson, R. (1980). *Research on teachers' pedagogical thoughts, judgement, decisions and behavior*. Unpublished paper.
- Shulman, L., & Lanier, J. (1977). The institute for research on teaching: An overview. *Journal of Teacher Education*, 58(4), 44-49.
- Shultz, J. (1983). *Ethnography in education: Implications for teacher education*. Paper presented at the meeting of the American Educational Research Association, Montreal, Canada.
- Tenove, S. (1982). *Community health nurse evaluation: The stakeholders' perspective*. Unpublished doctoral dissertation, University of Alberta, Edmonton.
- Tuckwell, N. (1980a). *A study of the impact of an intervention program on teacher thought processes*. Unpublished doctoral dissertation, University of Alberta, Edmonton.
- Tuckwell, N. (1980b). *Stimulated recall: Theoretical perspectives and practical and technical considerations* (Occasional Paper Series Technical Report No. 8-2-3). Edmonton: Centre for Research in Teaching, Faculty of Education, University of Alberta.
- Vandenburg, D. (1974). Phenomenology and educational research. In D. Denton (Ed.), *Existentialism and phenomenology in education* (pp. 183-220). New York: Teachers' College Press.
- Wahlstrom, M., Jones, R., & Regan, E. (1978). Teachers' beliefs make a difference. *School Guidance Worker*, 33(4), 4-8.
- Wilson, S. (1977). The use of ethnographic techniques in educational research. *Review of Educational Research*, 47(1), 245-256.
- Witherell, C., & Erickson, V. (1978). Teacher education as adult development. *Theory into Practice*, 17(3), 229-238.

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“On-the-Job” Training of Assistant Principals in Selected Tasks in the Calgary Public School System

The purpose of this study was to determine the extent and effectiveness of “on-the-job” training of assistant principals for the principalship in schools operated by the Calgary Board of Education, Calgary, Alberta. Generally there was a high level of agreement among principals and assistant principals with regard to the extent and effectiveness of “on-the-job training” in specific tasks. The two groups differed significantly in their ratings of extent of training over all tasks, indicating that principals perceived themselves as providing more training than assistant principals perceived themselves to be receiving. Subsequent “on-the-job” training should give greater attention to tasks associated with “System Wide Policies and Operation,” “Resource Management,” and “Curriculum and Instruction.”

Training for the position of principal has not been formalized by many school jurisdictions. In the past, it has been assumed that daily “on-the-job” administrative experience in the role of assistant principal would result in acquisition of the skills and knowledge required for the principalship. Recently the Alberta School Trustees’ Association and other stakeholder groups have evidenced considerable interest in the role of the principal. A series of workshops under contract to Planning Services Branch, Alberta Education were scheduled at centers across the province in 1982-83. The evaluation report on these workshops indicates a need for professional development programs for principals (Unruh & Johnson, 1983). It has, therefore, become an important question as to whether the position of assistant principal

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as operative in the Calgary Public School System, is a proper and useful training ground for the principalship.

Specifically, the purposes of this study were as follows:

1. To extend research related to the development of administrative skills and knowledge as advanced in the Project for the Development of Administrative Skills and Knowledge (ASK) (Seger, Caldwell, Magnan, & Maynes, 1980), the Competency Based Community Education Administration Project (Miller, Paddock, & McCleary, 1979), and other competency-based projects in administration.
2. To assist agencies concerned with inservice and preservice program development in planning activities that acknowledge the needs of assistant principals.
3. To provide information which may contribute to the systematization of "on-the-job" training for the principalship.

These purposes were pursued within the conceptual framework of Project ASK (Seger et al., 1980) which, in turn, relied on conceptual models proposed by Katz (in Pharis, 1966, p. 11) and Hall and Jones (1976). The framework of Project ASK also incorporated the Miller et al. (1979) definition of competence as "the presence of characteristics or absence of disabilities which render a person fit, or qualified, to perform a specific task or to assume a defined role" (Caldwell, Magnan, & Maynes, 1980, p. 3).

The distinction between "education" and "training" has not been made throughout this study. The preparation for administration includes both elements, i.e., preparing individuals to perform defined functions in predictable situations (training) and preparing individuals to perform undefined functions in unpredictable situations (education) (Johnson, 1977, p. 15).

Similarly, "on-the-job" training may address immediate needs of assistant principals and thereby serve an inservice function, or it may relate to future needs of a yet unattained position (the principalship) and thus serve a pre-service function. Consequently, it must be recognized that there is, to some extent, an overlapping of the preservice and inservice spheres as they relate to the "on-the-job" training of assistant principals.

Method

Research Questions

The following major research questions were addressed:

1. To what extent do principals provide purposeful, "on-the-job" training experiences for assistant principals in each of the selected tasks?
2. To what extent do assistant principals feel that they are receiving purposeful "on-the-job" training in each of the selected tasks?
3. To what extent do principals feel that the training experiences they provide are effective in terms of developing competence in each task?
4. To what extent do assistant principals feel the training experiences they are receiving are effective in each task?
5. Is there a relationship between extent and effectiveness of "on-the-job" training in each task as reported by principals and assistant principals?
6. What differences, if any, exist between principals' and assistant principals' perceptions with respect to the extent and effectiveness of "on-the-job" training in the selected tasks?

Population and Samples

The population from which samples were selected was made up of principals and assistant principals, working together in a school-based training relationship, within the public school system administered by the Calgary Board of Education in Calgary, Alberta. The population was representative of all levels of schooling (Kindergarten to Grade 12) as well as of religious and bilingual alternative programs.

Proportional, stratified random samples of principals and assistant principals were selected independently for the research. As Table 1 data indicate, each sample represented approximately 50 percent of the population with which this study was concerned.

TABLE 1
Study Population and Sample Sizes
According to Type of School

Sample Type	School Type	Total Population	Sample Size	Percentage Sample/Population
Principal	Elementary	96	45	46.9
Principal	Junior High	45	26	57.8
Principal	Senior High	18	9	50.0
Assistant Principal	Elementary	96	56	58.3
Assistant Principal	Junior High	49	23	46.9
Assistant Principal	Senior High	32	16	50.0

Instrumentation

Task statements for the questionnaires, directed to both principals and assistant principals, were selected from task statements as developed and used in Project ASK (Seger et al., 1980). From the original list of 113 task statements, 33 were selected which conformed to the following criteria:

1. They were perceived to be preservice and inservice needs of Alberta principals.
2. They were perceived to be required at the "application" level of proficiency (the ability to use a skill in an appropriate context).
3. They required competency that was perceived as being best acquired through "on-the-job" training.

The 33 tasks selected were classified as "High Ideal, High Real" in the Project ASK study (Seger et al., 1980). ("Ideal" refers to ratings of importance of the task;

"Real" refers to ratings of performance on those tasks.) They were determined to be a high priority in preservice training for the principalship. The 33 task statements were then classified in the questionnaires according to the six task areas of: "Curriculum and Instruction," "Staff Personnel," "Pupil Personnel," "Resource Management," "System-Wide Policies and Operations," and "School-Community Interface." These task statements were identically worded in the questionnaires for both principals and assistant principals. Respondents were asked to indicate measures of extent and effectiveness of "on-the-job" training in each task, using a numerical rating scale with verbal descriptions of categories.

A small pilot study was conducted to establish face validity. Six principals and six assistant principals completed the questionnaire and were requested to provide a critical analysis of the contents. This group was representative of schools and was not included in the subsequent research samples. In addition, both questionnaires were reviewed by graduate students, faculty, and associate and assistant superintendents in the Calgary Board of Education.

The rates of returns (87.5 percent of principals and 95.8 percent of assistant principals) were considered remarkably high for this type of study.

Statistical Analyses

Numeric measurements collected in this study were key-punched and then processed through a Honeywell 68/80 DPS running multics. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1970) and the Bio-Medical Computer Program (BMDP) (Dixon & Brown, 1979).

The SPSS sub-program "condescriptive" was used to obtain descriptive characteristics of principals' and assistant principals' data. Descriptive statistics, including means and standard deviations, were computed for the "extent" and "effectiveness" variables of all tasks.

Spearman Rank Order Correlation Coefficients were computed to determine measures of association between the extent and effectiveness variables of each task. The BMDP (Dixon & Brown, 1979) was utilized in order to apply Hotelling's T^2 statistic to "extent" and "effectiveness" variables of both samples. The SPSS sub-program "t-test" was applied to test for significant differences between means of two independent samples. In order to test for mean differences between variables in each sample, the t-test for paired samples was used.

Findings

Question 1: Extent of Purposeful "On-the-Job" Training Experiences Provided for Assistant Principals in Selected Tasks

Based upon principals' responses on a rating scale of "extent of training" from 1 to 4, means and standard deviations were computed for each of the 33 tasks. Table 2 contains a list of the "Top 10" tasks, which, according to responses made by the principals, received the most attention in terms of provision of training experiences.

Of the ten highest rated tasks according to extent of training, four were classified as "Staff Personnel," three were "Curriculum/Instruction," two were "Pupil Personnel," and one was in the area of "School-Community Interface." Interestingly, there were no tasks from the areas of "Resource Management" or "System-Wide Policies and Operations." Seven of these tasks were ranked among the ten most important in the Project ASK survey.

TABLE 2
“Top 10” Tasks Ranked According to Principals’
Mean Ratings of Extent of Training Provided

Rank	Class*	Task Number and Description	Mean**	N
1	PP	18. Taking action on discipline measures requiring intervention	3.716	81
2	SP	17. Establishing and maintaining good working relationships with and among staff	3.679	81
3	CI	6. Working with teachers and students to establish a good school climate	3.585	82
4	PP	23. Establishing policies and procedures for student discipline	3.580	81
5	SP	14. Developing a schedule for supervision of students	3.524	82
6	XC	33. Promoting a positive school image in the community	3.512	82
7	SP	12. Planning and maintaining a system of communication with staff	3.500	82
8	CI	2. Planning a program, including a timetable, which optimally matches time, space, staff, students, and subject matter	3.341	82
9	CI	1. Considering individual differences among students when organizing for instruction	3.316	79
10	SP	15. Recognizing and commending worthwhile accomplishments of staff	3.268	82

* Classifications: PP=Pupil Personnel, SP=Staff Personnel, CI=Curriculum and Instruction, XC=School-Community Interface
** Although reported to the third decimal place for the purpose of rankings, mean ratings here and elsewhere are accurate only to the first decimal place.

The ten tasks rated by principals as receiving the least attention in terms of provision of training experiences were also identified. Described as the “Bottom 10,” the tasks are listed in Table 3. Of the ten tasks ranked lowest, three were classified as “Staff Personnel,” two were “Resource Management,” two were “Curriculum/Instruction,” two were “System-Wide Policies and Operations,” and one was “Pupil Personnel.” None was among the ten most important tasks for effective performance identified by principals in Project ASK.

TABLE 3
“Bottom 10” Tasks Ranked According to Principals’
Mean Ratings of Extent of Training Provided

Rank	Class*	Task Number and Description	Mean	N
24	PO	31. Implementing provincial and school board policies affecting the school	2.854	82
25	SP	13. Planning and conducting staff meetings	2.841	82
	CI	5. Soliciting suggestions from teachers when adapting and/or designing curriculum	2.841	82
27	RM	26. Using budgetary guidelines to structure school activities	2.829	82
28	RM	27. Administering the school budget in accordance with the policies, regulations and procedures of the board	2.793	82
	CI	4. Working with teachers to establish criteria for student performance	2.793	82
30	PO	29. Ensuring school goals and objectives are consistent with system goals	2.756	82
31	SP	16. Providing for orientation of new staff	2.744	82
32	PP	22. Establishing criteria for placement of students in school programs	2.709	79
33	SP	11. Assisting in the recruitment and selection of certificated personnel	2.366	82

* Classifications: PO=System-Wide Policies and Operations, CI=Curriculum and Instruction, SP=Staff Personnel, RM=Resource Management, PP=Pupil Personnel

Question 2: Extension of Purposeful “On-the-Job” Training Experience Received by Assistant Principals in Selected Tasks

In Table 4 are listed the ten tasks which were perceived by assistant principals to receive the most emphasis in training received. Assistant principals felt they received the most training in Task 23: “Establishing policies and procedures for student discipline.” Of the ten listed tasks, five were classified as “Staff Personnel,” two were “Pupil Personnel,” two were “Curriculum/Instruction,” and one was “School-Community Interface.” As with the principals’ ratings of extent of training, there was no mention of tasks in the areas of “System-Wide Policies and Operations” or “Resource Management” on the list.

TABLE 4

“Top 10” Tasks Ranked According to Assistant Principals’
Mean Ratings of Extent of Training Received

Rank	Class*	Task Number and Description	Mean	N
1	PP	23. Establishing policies and procedures for student discipline	3.538	91
2	CI	6. Working with teachers and students to establish a good school climate	3.505	91
3	PP	18. Taking action on discipline measures requiring intervention	3.495	91
4	SP	17. Establishing and maintaining good working relationships with and among staff	3.451	91
5	SP	15. Recognizing and commending worthwhile accomplishments of staff	3.275	91
6	XC	33. Promoting a positive school image in the community	3.264	91
7	SP	14. Developing a schedule for supervision of students	3.253	91
8	SP	8. Encouraging staff to recognize and commend worthwhile accomplishments of students	3.242	91
9	SP	12. Planning and maintaining a system of communication with staff	3.165	91
10	CI	2. Planning a program, including a timetable which optimally matches time, space, staff, students, and subject matter	3.154	91

* Classifications: PP=Pupil Personnel, CI=Curriculum and Instruction, SP=Staff Personnel, XC=School-Community Interface

Overall, the mean ratings of extent of training by assistant principals were slightly lower than those reported by principals. The ratings of specific tasks by assistant principals were remarkably similar to those made by principals. Assistant principals’ ratings of the “Top 10” tasks in extent of training included eight of the ten most important tasks for effective performance of principals identified in Project ASK (Caldwell et al., 1980, p. 33).

The ten tasks which received the lowest mean ratings by assistant principals in extent of training received are displayed in Table 5. Task classifications for which assistant principals felt they received the least amount of training were “Staff Personnel” (2), “Pupil Personnel” (2), “Curriculum and Instruction” (2), “Resource Management” (2), and “System-Wide Policies and Operations” (1).

TABLE 5

“Bottom 10” Tasks Ranked According to Assistant Principals’
Mean Ratings of Extent of Training Received

Rank	Class*	Task Number and Description	Mean	N
24	PO	29. Ensuring school goals and objectives are consistent with system goals	2.824	91
	PP	20. Working with teachers to establish a comprehensive student activity program	2.824	91
26	RM	25. Preparing a budget in accordance with the policies, regulations, and procedures of the board	2.780	91
27	RM	26. Using budgetary guidelines to structure school activities	2.758	91
28	SP	16. Providing for orientation of new staff	2.747	91
29	PO	28. Organizing the school staff in order to accomplish the educational goals of school system	2.736	91
30	CI	5. Soliciting suggestions from teachers when adapting and/or designing curriculum	2.714	91
31	PP	22. Establishing criteria for placement of students in school programs	2.685	89
32	CI	4. Working with teachers to establish criteria for student performance	2.462	91
33	SP	11. Assisting in the recruitment and selection of certificated personnel	2.261	88

* Classifications: PO=System-Wide Policies and Operations, PP=Pupil Personnel, RM=Resource Management, SP=Staff Personnel, CI= Curriculum and Instruction

In total, seven tasks appeared on the “Bottom 10” rankings of extent of training on both principals’ and assistant principals’ lists. Interestingly, assistant principals included Task 28: “Organizing the school staff in order to accomplish the educational goals of the school system” among those receiving the least amount of training. This task, however, was listed among the ten most important for effective performance by principals as identified in Project ASK.

Question 3: Effectiveness of Training Provided by Principals

The “Top 10” list of tasks ranked according to mean ratings of effectiveness of training by principals are listed in Table 6. Although rankings differed, the same

ten tasks appeared on the "Top 10" list of *effectiveness* of training as on the "Top 10" list of *extent* of training, according to mean ratings by principals. While it is recognized that the format of the questionnaire may have contributed to the similar ratings, it is also quite possible that effectiveness is a function of extent of training. Generally, principals' mean ratings of effectiveness of training experiences were slightly lower than their ratings of extent of training provided.

TABLE 6
"Top 10" Tasks Ranked According to Principals' Mean
Ratings of Effectiveness of Training Provided

Rank	Class*	Task Number and Description	Mean	N
1	PP	18. Taking action on discipline measures requiring intervention	3.636	77
2	PP	23. Establishing policies and procedures for student discipline	3.571	77
3	SP	14. Developing a schedule for supervision of students	3.526	78
4	CI	6. Working with teachers and students to establish a good school climate	3.487	78
5	SP	17. Establishing and maintaining good working relationships with and among staff	3.468	77
6	XC	33. Promoting a positive school image in the community	3.403	77
7	SP	15. Recognizing and commending worthwhile accomplishments of staff	3.359	78
	SP	12. Planning and maintaining a system of communication with staff	3.359	78
9	CI	2. Planning a program, including a timetable, which optimally matches time, space, staff, students, and subject matter	3.316	76
10	CI	1. Considering individual differences among students when organizing for instruction	3.187	75

* Classifications: PP=Pupil Personnel, SP=Staff Personnel, CI=Curriculum and Instruction, XC=School-Community Interface

The ten tasks with the lowest mean ratings of effectiveness of training are shown in Table 7. The training experience ranked lowest in effectiveness was in the task of "Assisting in the recruitment and selection of certificated personnel."

TABLE 7

“Bottom 10” Tasks Ranked According to Principals’ Mean
Ratings of Effectiveness of Training Provided

Rank	Class*	Task Number and Description	Mean	N
24	PP	20. Working with teachers to establish a comprehensive student activity program	3.000	77
	RM	25. Preparing a budget in accordance with the policies, regulations, and procedures of the board	3.000	77
	SP	10. Interpreting system policies, regulations, procedures and priorities to staff	3.000	78
27	PO	30. Clarifying the decision-making responsibilities for subordinates	2.986	74
28	RM	27. Administering the school budget in accordance with the policies, regulations and procedures of the board	2.974	78
29	PP	22. Establishing criteria for placement of students in school programs	2.930	71
30	CI	4. Working with teachers to establish criteria for student performance	2.897	78
31	SP	13. Planning and conducting staff meetings	2.896	77
32	CI	5. Soliciting suggestions from teachers when adapting and/or designing curriculum	2.844	77
33	SP	11. Assisting in the recruitment and selection of certificated personnel	2.658	76

* Classifications: PP=Pupil Personnel, RM=Resource Management, PO=System-Wide Policies and Operations, SP=Staff Personnel, CI=Curriculum and Instruction

The ten tasks in which training was perceived by principals to be least effective were “Staff Personnel” (3), “Pupil Personnel” (2), “Curriculum and Instruction” (2), “Resource Management” (2) and “System-Wide Policies and Operations” (1).

Tasks 4, 5, 11, 13, 22 and 27 appeared on the “Bottom 10” listings of both extent and effectiveness of training as rated by principals. Principals reported these tasks received the least emphasis in training and were perceived to be the least effective in the development of competence.

Curiously, Tasks 10, 20, 25 and 30 were ranked in the “Bottom 10” in terms of effectiveness, yet were not among the “Bottom 10” tasks ranked according to provi-

sion of training by principals. This finding suggests that principals may be providing training in these tasks but that the "on-the-job" training may not be the most effective means of developing competence in these tasks.

Question 4: Effectiveness of Training Received by Assistant Principals

Table 8 contains the ten tasks in which assistant principals felt training experiences were most effective in terms of developing competence. The task which assistant principals perceived to be the most effective for training was No. 18: "Taking action on discipline measures requiring interventions." This task was also rated highest in extent and effectiveness of training according to principals' responses.

TABLE 8
"Top 10" Tasks Ranked According to Assistant Principals'
Mean Ratings of Effectiveness of Training Received

Rank	Class*	Task Number and Description	Mean	N
1	PP	18. Taking action on discipline measures requiring intervention	3.418	91
2	SP	17. Establishing and maintaining good working relationships with and among staff	3.389	90
3	CI	6. Working with teachers and students to establish a good school climate	3.356	90
4	PP	23. Establishing policies and procedures for student discipline	3.352	91
5	SP	15. Recognizing and commending worthwhile accomplishments of staff	3.333	90
6	SP	14. Developing a schedule for supervision of students	3.330	88
7	XC	33. Promoting a positive school image in the community	3.209	91
8	SP	12. Planning and maintaining a system of communication with staff	3.156	90
9	CI	2. Planning a program, including a timetable which optimally matches time, space, staff, students, and subject matter	3.133	90
10	RM	24. Making decisions about instructional materials and equipment	3.115	87

* Classifications: CI=Curriculum and Instruction, PP=Pupil Personnel, SP=Staff Personnel, XC=School-Community Interface, RM=Resource Management

The ten highest rated tasks in effectiveness of training experiences (by assistant principals) were classified as “Staff Personnel” (2), “Pupil Personnel” (2), “Curriculum and Instruction” (2), “Resource Management” (1), and “School-Community Interface” (1). Training in “System-Wide Policies and Operations” tasks was not among those perceived to be most effective by assistant principals.

In examining principals’ and assistant principals’ listings of the most effective training experience, it was evident that agreement was reached on nine of the “Top 10” tasks. Overall, mean ratings of effectiveness of training experiences by assistant principals were slightly lower than those reported by principals. Of the “Top 10”

TABLE 9
“Bottom 10” Tasks Ranked According to Assistant Principals’
Mean Ratings of Effectiveness of Training Received

Rank	Class*	Task Number and Description	Mean	N
24	PO	30. Clarifying the decision-making responsibilities for subordinates	2.879	91
25	RM	27. Administering the school budget in accordance with the policies, regulations and procedures of the board	2.846	91
	PO	28. Organizing the school staff in order to accomplish the educational goals of the school system	2.846	91
27	RM	26. Using budgetary guidelines to structure school activities	2.822	90
28	CI	1. Considering individual differences among students when organizing for instruction	2.811	90
29	PP	20. Working with teachers to establish a comprehensive student activity program	2.787	89
30	CI	5. Soliciting suggestions from teachers when adapting and/or designing curriculum	2.719	89
31	PP	22. Establishing criteria for placement of students in school programs	2.632	87
32	CI	4. Working with teachers to establish criteria for student performance	2.517	87
33	SP	11. Assisting in the recruitment and selection of certificated personnel	2.352	88

* Classifications: CI=Curriculum and Instruction, PP=Pupil Personnel, RM=Resource Management, SP=Staff Personnel, PO=System-Wide Policies and Operations

tasks according to assistant principals' ratings of effectiveness of training, seven were among the most important tasks as identified in the Project ASK study.

The ten tasks in which training was perceived by assistant principals to be the least effective are displayed in Table 9. Training in task 11: "Assisting in the recruitment and selection of certified personnel" was perceived by assistant principals to be least effective in developing competence in that task. This was consistent with assistant principals' low ratings of extent of training and with principals' low ratings of extent and effectiveness of training in this task. Areas in which training was perceived to be least effective were "Curriculum and Instruction" (3), "Pupil Personnel" (2), "Resource Management" (2), "System-Wide Policies and Operations" (2) and "Staff Personnel" (1). Generally, mean ratings of effectiveness of training by assistant principals were slightly higher than their ratings of extent of training.

Question 5: Relationship Between Extent and Effectiveness of "On-the-Job" Training

To measure the degree of association between the variables, Spearman Rank Order Correlation Coefficients were computed for each task and for each sample. The correlation coefficients for each task and for each sample were very high and indicated a strong, positive relationship between the extent and effectiveness of "on-the-job" training. The range of r_s for principals was from 0.8723 (maximum) to 0.4996 (minimum). The range of r_s in all tasks for assistant principals was from 0.8429 (maximum) to 0.5616 (minimum). This was evidence of the relative consistency of rankings of extent and effectiveness of training within each sample.

Question 6: Differences Between Principals' and Assistant Principals' Perceptions with Respect to Extent and Effectiveness of "On-the-Job" Training

In order to determine if significant difference existed between principals' and assistant principals' measures of extent and effectiveness of training, Hotelling's T^2 (Tatsuoka, 1971, pp. 76-83) statistic for a two sample problem was applied to this sample. Table 10 displays the results of the Hotelling's T^2 test of significance as applied to the *effectiveness* variables in principals' and assistant principals' data. The probability of obtaining an F value of 1.0608 in 0.394, indicated no significant difference between principals' and assistant principals' measures of effectiveness of "on-the-job" training in the 33 selected tasks. There was no evidence to suggest that

TABLE 10

Summary of T^2 Test of Significance:
Principals' vs. Assistant Principals'
Means of Effectiveness of Training Overall Tasks

T^2	d.f.	F value	p value*
43.6382	33, 130	1.0608	0.394

*Probability based on a 2-tailed test of significance

one group may have perceived training to be more (or less) effective than the other group.

Results of the Hotelling's T^2 (Tatsuoka, 1971, pp. 76-83) test of significance between principals' and assistant principals' ratings of *extent* of training are stated in Table 11. The results seem to indicate that principals and assistant principals differed significantly according to their perceptions of the extent of training which was occurring in an "on-the-job" setting. Subsequent analysis of differences between principals and assistant principals with respect to the extent of training in each task was conducted.

TABLE 11
Summary of T^2 Test of Significance:
Principals' vs. Assistant Principals'
Means of Extent of Training Overall Tasks

T^2	d.f.	F value	p value*
69.7412	33, 137	1.7075	0.018

*Probability based on a 2-tailed test of significance

Those tasks for which differences between principals and assistant principals were statistically significant with respect to *extent* means are listed in Table 12. Differences in means were statistically significant beyond the .05 level in a two-tailed test. Principals' mean ratings of extent of training provided exceeded those of assistant principals' in all tasks listed.

Of the seven tasks for which differences between principals and assistant principals were statistically significant, four were among the ten most important ones for effective performance according to principals in the Project ASK study (Tasks #12, 17, 18 and 33).

According to mean ratings by both groups, tasks in the area of "School-Community Interface" received the most attention in extent of training. Principals' and assistant principals' ratings indicated agreement that tasks in the areas of "Resource Management" and "System-Wide Policies and Operations" received the least attention.

In order to test for significant differences between "extent" means of each task area, the t-test for paired observations was employed. Results indicated there were no significant differences between any of the following task areas: "Curriculum and Instruction," "Staff Personnel," and "Pupil Personnel." Examination of the means and rankings in Table 12 (30) suggested that training in the task area of "School-Community Interface" was greater than in other areas, according to principals' measures. The mean ratings and rankings in Table 12 also implied that training in the task areas of "System-Wide Policies" and "Operations and Resource Management" received considerably less emphasis than other task areas, according to principals' responses.

TABLE 12

Summary of t Test of Significance:
Principals' vs. Assistant Principals' Means of Extent of Training

Task** Class.	Task Number and Description	t value	d.f.	p value*
CI	1. Considering individual differences among students when organizing for instruction	2.78	168	0.006
CI	4. Working with teachers to establish criteria for student performance	2.53	171	0.012
SP	12. Planning and maintaining a system of communication with staff	3.20	171	0.002
SP	14. Developing a schedule for supervision of students	2.00	171	0.047
SP	17. Establishing and maintaining good working relationships with and among staff	2.36	170	0.019
PP	18. Taking action on discipline measures requiring intervention	2.59	170	0.010
XC	33. Promoting a positive school image in the community	2.35	168	0.020

* Probability value based on 2-tailed test of significance

** Classifications: CI=Curriculum and Instruction, SP=Staff Personnel, PP=Pupil Personnel, XC=School-Community Interface

Extent of Training

Mean ratings of *extent* of training provided by principals were generally quite high, indicating that principals saw themselves as providing a considerable amount of training over all tasks. Principals reported that they provided the greatest amount of training in the task areas of "School-Community Interface," "Curriculum and Instruction," "Staff Personnel" and "Pupil Personnel." The least provision of training was in the areas of "Resource Management" and "System-Wide Policies and Operations."

Assistant principals' measures of *extent* of training received were generally quite high, indicating that they saw themselves receiving considerable training in all tasks. According to their responses, training in the task areas of "School-Community Interface," "Pupil Personnel," "Staff Personnel" and "Curriculum and Instruction" received the most emphasis. Tasks in the areas of "Resource Management" and "System-Wide Policies and Operations" were afforded the least attention.

Principals' mean ratings of the extent of training over all tasks were higher than those of assistant principals. Principals indicated they were providing more training than assistant principals said they were receiving. Since both groups may have perceived that the responsibilities for the provision of training lies with the principal, this finding could be regarded as consistent with other studies where self-ratings tended to be higher than ratings by others (Caldwell et al., 1980; Johnston & Sackney, 1982).

There was considerable agreement among principals and assistant principals with respect to those tasks receiving the greatest attention. In "extent of training" nine of the "Top 10" tasks were the same on lists of both groups of respondents. Task 18 (Taking action on discipline measures) and Task 23 (Establishing policies and procedures for student discipline) were rated very highly by both groups with respect to extent of training. This finding concurred with other studies where student discipline was found to be a major component of the assistant principal's role (Austin & Brown, 1970; Powell, 1978; Holloway, 1979; Kelly, 1984).

Effectiveness of Training

Generally, principals' mean ratings of *effectiveness* of training provided were only slightly higher than their ratings of extent of training. Although rankings differed, the same ten tasks appeared on principals' "Top 10" listings of extent of training provided and the "Top 10" listing of effectiveness of training.

The mean ratings of *effectiveness* of training received by assistant principals were generally slightly higher than their mean ratings of extent of training received. Nine tasks which appeared on the "Top 10" listing of extent of training also appear on the "Top 10" listing of effectiveness. Task 28 (Organizing the school staff in order to accomplish the educational goals of the school system) was ranked among those in which assistant principals perceived training to be the least effective. Similarly, the study in Medicine Hat (Kelly, 1984) indicated assistant principals were not involved in the hiring, supervision, evaluation and disposition of teachers to the extent they perceived they would need to be as principals. This task was among the ten most important for effective performance by principals in Project ASK.

Generally, principals' ratings of effectiveness of training experiences were slightly higher than assistant principals' ratings over most tasks. However, results of Hotelling's T^2 (Tatsuoka, 1971, pp. 76-83) test of differences between means did not reveal significant differences between principals' and assistant principals' effectiveness measures over all 33 tasks selected for this study.

Conclusions

The major conclusions of this investigation, as they related to the research questions, are enumerated below.

1. There was a high level of agreement among principals and assistant principals surveyed with respect to the extent and effectiveness of "on-the-job" training in specific tasks.
2. Principals and assistant principals differed significantly in their mean ratings of extent of training over all 33 tasks. Examination of the "extent" means for each group suggests that principals felt they were providing more training experiences than assistant principals felt they were receiving.

3. Mean ratings of effectiveness of training experiences were only slightly higher than "extent" ratings for both samples surveyed. The possibility exists that "on-the-job" training may not be as effective as one would like to believe it should be.
4. The principals and assistant principals did not differ to any appreciable degree in their perceptions of overall effectiveness of "on-the-job" training experiences.
5. The measures of association between extent and effectiveness of training were very high for both samples. While it is recognized the format of the questionnaires may have contributed to the similarity in ratings, it is also quite possible that effectiveness is a function of extent.
6. Differences in mean ratings of extent of training in task areas within each group were statistically significant in some areas. Differences were noted between all task areas and those of "Resource Management" and "System-Wide Policies and Operations."

Implications

The findings of this study emphasize the importance of continuing research regarding the professional development of principals. In particular, the nature of "on-the-job" training as it relates to training principals requires further exploration. This study and others (Kelly, 1984) raises the issue of the utility of the assistant principalship as a training ground for the principalship. Rankings based on mean ratings of extent and effectiveness of "on-the-job" training, by principals and assistant principals, have provided an important source of information for developers of inservice and preservice programs for educational administrators. They suggest that the task areas of "System-Wide Policies and Operations," "Resource Management," and "Curriculum and Instruction" warrant greater attention. Finally, existing research knowledge regarding the assistant principalship as a training position would be enhanced by studies embodying different theoretical or conceptual orientations.

References

- Austin, D. B., & Brown, H. L. (1970). *Report of the assistant principalship: A project of the National Association of Secondary School Principals*. Washington, DC: National Association of Secondary School Principals.
- Caldwell, B., Magnan, D., & Maynes, W. (1980). *Tasks of the Alberta principal: Implications for the training of administrators*. Edmonton: University of Alberta, Department of Educational Administration.
- Dixon, W. J. & Brown, M.B. (Eds.)(1979) BMDP: Biomedical Computer Programs P-Series 1979. Los Angeles: University of California Press.
- Hall, G. E., & Jones, H. (1976). *Competency based education: A process for the improvement of education*. Englewood Cliffs, NJ: Prentice-Hall.
- Holloway, S. E. (1979). Self-perceptions of the role of the assistant principal: Implications for training (Doctoral dissertation, University of Michigan). *Dissertation Abstracts International*, 40/10A, 5268.
- Johnson, M. (1977). Definitions and models in curriculum theory. In A. Bellack & H. Kliebard (Eds.), *Curriculum and evaluation*. Berkeley, CA: McCutchan.
- Johnston, J.M. & Sackney, L.E. (1982) *Principals' Classroom Supervisory Practices*.. Saskatoon: University of Saskatchewan, College of Education.

- Kelly, G. (1984, October). On the way to the principalship. *The Canadian School Executive*, 4, 11-13.
- Miller, B. P., Paddock, S. C., & McCleary, L. E. (1979). *Competency-based community education administration. Volume I: The research report, Southwest Regional Center for Community Education Development*. Tempe, AZ: Arizona State University, Department of Educational Administration and Supervision.
- Nie, N.H., Hull, C.H., Jenkins, J.G., Steinbrenner, K. & Bent, D.H. (1970). *Statistical Package for the Social Sciences*. (2nd ed.). Toronto: McGraw-Hill.
- Pharis, W. L. (1966). *Inservice education of elementary school principals*. Washington, DC: National Education Association, Department of Elementary School Principals.
- Powell, R. R. (1978). *A study of the senior high school assistant principalship in the Calgary public school system*. Unpublished master's thesis, University of Calgary, Calgary, Alberta.
- Seger, J. E., Caldwell, B. J., Magnan, D. E., & Maynes, W. (1980). *Development of administrative skills and knowledge: Summary report of project ASK, Phase I*. A report prepared by the Department of Educational Administration for the Program Services Division, Alberta Advanced Education and Manpower. Edmonton: University of Alberta.
- Tatsuoka, M. M. (1971). *Multivariate analysis: Techniques for educational and psychological research*. Toronto: John Wiley.
- Task Statements in project ASK survey* (Working paper #14: Project for the development of administrative skills and knowledge). (1980, February). Edmonton: University of Alberta, Department of Educational Administration.
- Unruh, W. R., & Johnson, F. T. (1983). *ASTA workshop on the changing role of the principal* (Evaluation report under contract to Planning Services Branch). Edmonton: Alberta Education.

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Education Students' Attitudes Toward Disabled Persons and Mainstreaming

Teachers' attitudes toward integrating handicapped children are a significant factor in the implementation of a mainstreaming program. This article reports an investigation of attitudes toward disabled persons and mainstreaming held by university students (N=242) in teacher education programs in a large provincial university. Mean scores of students in each program on the instruments in the test battery suggest marginally favorable attitudes both toward disabled persons and toward mainstreaming. Students in special education were found to be more accepting of the disabled than were students in regular education primary, intermediate, and secondary programs. No significant differences in attitude toward mainstreaming were found between the various groups of students. However, several significant differences among program groups for strength of opinion were disclosed by the analyses of responses to individual test items on a Likert-type scale. Furthermore, an examination of responses to individual test items revealed that students in the sample supported only a limited concept of mainstreaming. Segregated classrooms and separate schools were considered to be suitable educational environments for children with certain disabling conditions.

Integrating handicapped children into the pedagogical mainstream is policy in most Canadian provinces. Underpinning this policy is the general acceptance of the normalization principle that disabled people have the right to participate in the mainstream of society and that the conditions of their everyday life should reflect the normal rhythm of daily existence (Wolfensberger, 1972). Concurrence with the normalization principle as it relates to educational practice is based on a number of factors. Among these factors are: (a) an increased concern for the right of all children to equal access and opportunity to education (Blatt, 1979; Sheldon & Sherman, 1975), (b) an acknowledgment that the practice of instructing handicapped children in restrictive environments fails to provide adequately for their educational and social needs (Dunn, 1968, 1973; Johnson, 1962), (c) an awareness that educating handicapped children in the mainstream may be beneficial to their cognitive and affective development (Budoff & Gottlieb, 1976; Sheare, 1974; Ziegler

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& Hambleton, 1976), and (d) the knowledge that integrating these children into regular classrooms is not likely to impede the educational progress of nondisabled children (Bradfield, Brown, Kaplin, Rickert, & Stannard, 1973; Peterson, Peterson, & Scriven, 1977; Ringlaben & Price, 1981).

A number of educators (e.g., Herlihy & Herlihy, 1980, p. 12; Kunc, 1984; Turnbull & Schulz, 1979, pp. 341-345) have recognized the important role that teachers' attitudes play in the mainstreaming process. Indeed, since final responsibility for translating policy into classroom practice falls on teachers, it is reasonable to propose that the success of a mainstreamed program in a particular school depends to a great extent upon its teachers' attitudes toward handicapped students and toward these students' right to be educated in a nonrestrictive environment (Linton & Juul, 1980).

Teacher attitudes toward the disabled and toward mainstreaming have been the foci of a number of studies. However, the findings of these studies have not led to a general conclusion in this area: A review of the literature revealed both positive (e.g., Guerin & Szatlocky, 1974; McCauley, Morris, & Cooper, 1978; Schmelkin, 1981) and negative (e.g., Barngrover, 1971; Childs, 1981; Moore & Fine, 1978) teacher attitudes toward the disabled and toward integrating handicapped children in regular classrooms.

Though fewer in number, similar studies have been conducted with university students in education faculties. These studies indicated that education students in general held somewhat positive attitudes toward the disabled and that they accepted a limited concept of mainstreaming (e.g., Drake, 1977; Kang, 1976; Winzer, 1984a, 1984b). Further, special education students were found to be more accepting of disabled persons than were general education students (e.g., Kiernan, 1974; Semmel & Dickson, 1966). This article reports an investigation of the attitudes of education students in a large Canadian university toward disabled persons and toward including handicapped children in regular school programs.

Purpose of the Study

The study was designed to assess and to compare the attitudes of students enrolled in different teacher education programs. It was expected that special education students would demonstrate more positive attitudes toward disabled persons and toward mainstreaming than would students in general education primary, intermediate, and secondary programs. As well, it was anticipated that special education students would be more willing to include moderately and severely handicapped children in regular classrooms than would students in the other programs.

Method

The Sample

The sample of university students ($N=242$) was enrolled in the Faculty of Education, The University of British Columbia. The 12 intact classes involved in the study included four classes of primary education students ($n=66$), four classes of intermediate education students ($n=95$), three classes of secondary education students ($n=50$), and one class that comprised all the third year students ($n=31$) in the special education degree program.

With the exception of those in special education, all students were in the professional year of the teacher education program. For students preparing to teach elementary grades, the professional year of the BEd program is the third year. Students in the elementary program may also enter the Faculty with an undergraduate

degree and then complete a fifth or professional year for a teaching certificate. As a result, both third and fifth year students were included in the primary and intermediate classes sampled. All secondary students in the sample held baccalaureate degrees and were registered in a one-year teacher training program for university graduates.

Students in the elementary and secondary programs had completed at least one teaching practicum. Special education students had completed practica in both special and regular elementary school classrooms. Many special education students had worked as volunteers with agencies serving disabled children and adults. These students had completed one-third of the special education courses in their five-year program. None of the students in the other programs had taken courses in special education. Only a few of these students reported any contact with, or knowledge of, disabled people. The ages of the students varied from 19 to 34 years, with most ages falling into the 21 to 24 years of age category.

Randomization was not a feature of the study; however, the eight classes in the elementary sample enrolled almost one-third of the elementary students in the Faculty taking the professional year and the three classes of secondary students represented over one-quarter of the fifth-year secondary students. Secondary teaching majors of students in the sample included social studies, English, science, physical education, and music. The test battery was administered during social studies methods courses, which are compulsory courses for elementary students but are elective courses for secondary students.

Instrumentation

Three instruments comprised the battery of tests used to assess attitudes. These were the *Attitude Toward Disabled Person Scale* (ATDP)—Form 0 (Yuker, Block, & Young, 1970, p. 113), the *Attitudes Toward Mainstreaming Scale* (ATMS) (Berryman & Neal, 1980), and the *Teacher Opinions Section of A Survey of Teacher Opinions Relative to Mainstreaming Special-Needs Children* (Larrivée & Cook, 1979). For convenience, the latter instrument is referred to in this report as the *Attitude Toward Integration Scale* (ATIN). In addition to these tests, the 69-item test battery concluded with an item developed by the researcher from descriptions in Gearheart and Weishahn (1980, pp. 30-34) that asked respondents to select the most suitable educational environments for children with specific disabilities from a continuum of settings that varied from *Regular class, no assistance needed* (1) to *Residential or boarding school* (10).

The Attitude Toward Disabled Persons Scale. This instrument has been used extensively in research studies as a measure of attitude toward the disabled (Horne, 1980, p. 37). The ATDP was developed to assess attitudes toward a general concept of disability, rather than toward specific disabilities (Yuker et al., 1970, p. 18). Respondents to the ATDP indicated on a 6-point Likert-type scale the degree to which they accepted or rejected 20 statements that described the disabled as different or inferior to the nondisabled. A high score on the ATDP is interpreted to indicate acceptance of disabled persons as being similar to nondisabled persons. A low score is interpreted as a negative attitude toward disabled persons. Data to support the validity and reliability of the ATDP have been provided by a number of studies. The developers of the ATDP hypothesized that attitudes toward the disabled as measured by this instrument would be related to a number of personality factors (Yuker et al., 1970, pp. 59-94). Among others, ATDP scores have been found to be positively correlated with scores on measures of self-esteem, personal adjust-

ment, and security (e.g., Eisler, 1964; Epstein & Shontz, 1961; Siller, 1964) and to be negatively correlated with scores on measures of authoritarianism (Elsberry, 1975; Lamers, 1965; Noonan & Barry, 1970), ethnocentrism (Chesler, 1965), aggression and hostility (Swingle, 1962), and anxiety (Kaiser & Moosbrucker, 1960; Wesolowski, 1978). Furthermore, scores on the ATDP have been found to be correlated with scores on various measures of attitudes toward persons with specific disabilities (e.g., Knittel, 1964; Lazar & Stodden, 1977; Lazar, Stodden, & Sullivan, 1976; Olkin, 1982; O'Neal & Lazar, 1979; Siller, 1964; Szuhay, 1961). Yuker et al. (1970, pp. 120-121) reported coefficients of stability (test-retest) that ranged from .66 to .89 and coefficients of internal consistency (split-half) that ranged from .72 to .89. Coefficients of consistency for the ATDP were calculated with the Kuder-Richardson formula 21 for the data collected from the four groups of education students. The resultant coefficients were .88 (primary), .88 (intermediate), .88 (secondary), and .87 (special education).

The Attitudes Toward Mainstreaming Scale. The ATMS was developed as a measure of attitude toward integrating handicapped children into regular classrooms. Respondents to this test stated their agreement or disagreement on a 6-point Likert-type scale with 18 statements that the authors of the ATMS assert measure "attitudes toward the practice of mainstreaming rather than . . . knowledge of mainstreaming" (Berryman, Neal, & Robinson, 1980, p. 200). Each of the 18 items in the ATMS identifies a particular disability (e.g., diabetes, epilepsy, mental retardation, visual or hearing impairment) and states that students with this condition "should be in regular classrooms" (Berryman & Neal, 1980, pp. 472-473). A high score on the ATMS is interpreted to be acceptance of mainstreaming as education practice. A low score implies opposition to mainstreaming. The ATMS was validated and cross-validated by a principal axis analysis procedure. Factor analysis of the responses to the ATMS of a sample of 161 subjects, that included both education students and inservice teachers, yielded three factors, identified by the test developers as (a) Learning Capability, (b) General Mainstreaming, and (c) Traditional Limiting Disabilities (Berryman, Neal and Robinson, 1980). The cross-validation sample consisted of 164 inservice elementary and secondary teachers. The same three factors emerged from the analysis of the data collected from this sample. Correlation coefficients (Pearson product-moment r) between total test scores for the two samples and the individual factors ranged from .77 to .88 (Berryman & Neal, 1980). Alpha coefficients ranging from .88 to .89 (Berryman & Berryman, 1981) and a split-half coefficient (Spearman-Brown prophecy formula) of .92 (Berryman, Neal and Robinson, 1980) are evidence of the internal consistency of the ATMS. Coefficients of consistency for the ATMS calculated with the Kuder-Richardson formula 21 for the data obtained from this study were .92 (primary), .91 (intermediate), .86 (secondary), and .85 (special education).

The Attitude Toward Integration Scale. This instrument was constructed by Larrivée and Cook (1979) to assess teacher attitudes toward mainstreaming "special-needs" children. Each of the 30 items in the test asks for agreement or disagreement on a 6-point Likert-type scale with a statement that expresses an opinion about the consequences of integrating special-needs children into regular programs. The statements suggest both positive (e.g., "Mainstreaming offers mixed group interaction which will foster understanding and acceptance of differences.") and negative (e.g., "The behavior of special-needs students will set a bad example for other students.") effects. A high score on the ATIN implies an acceptance of mainstreaming and of the belief that the results of integrating handicapped children will be beneficial both for these children and for their non-handicapped peers. A low score

is interpreted as a rejection of mainstreaming. The construction of the ATIN was guided by several hypothesized dimensions of teacher attitude relative to mainstreaming. Factor analysis of the responses of almost 1,000 New England teachers supported the hypotheses and indicated five dimensions (interpreted as a. general philosophy of mainstreaming, b. classroom behavior of special-needs children, c. perceived ability to teach special-needs children, and d. academic and social growth of special-needs children) underlying teacher attitude toward mainstreaming (Larrivée, 1982). A similar finding was reported by Green, Rock, and Weisenstein (1983) following the analysis of responses to the ATIN of education students enrolled in the University of Washington. Green et al., (1983) also reported correlation coefficients (Pearson product-moment r) that ranged from .44 to .47 for relationships between ATIN scores and scores on measures of several factors hypothesized to be related to attitude toward mainstreaming. Split-half reliability coefficients (Spearman-Brown prophecy formula) of .92 (Larrivée, 1981) and .89 (Green et al., 1983) suggest acceptable internal consistency. Coefficients of consistency (KR 21) for the ATIN determined with the data collected during this study were .89 (primary), .88 (intermediate), .84 (secondary), and .78 (special education).

Relationships among the ATDP, the ATMS, and the ATIN. Correlation coefficients (Pearson product-moment r) for relationships among the three instruments were calculated from the data collected in this study. These were as follows: (a) ATDP and ATMS .34, (b) ATDP and ATIN .47, and (c) ATMS and ATIN .61. These coefficients were statistically significant ($df=24$; $p<.01$).

Analysis

The initial comparisons required that the data for both the primary group and the intermediate group be arranged separately according to university year and treated with the t -test for independent means to determine if scores on the three instruments were related to university year. When nonsignificant t values ($p>.05$) were obtained, the decision was made to consider the primary group and the intermediate group as single groups of students. A similar conclusion was reached by Semmel and Dickson (1966) in their investigation of the attitudes of education students toward disability labels.

Two-way classification analysis of variance with the data for each instrument arranged according to teaching program and sex was the basic analysis for this study. The general least squares solution for unequal-sized groups was used, as recommended by Winer (1971, p. 498). Furthermore, Hotelling's T^2 -test was used to compare the mean item scores of the groups on each of the instruments. Responses to the item that asked students to select the most suitable educational environments for children with specific disabilities (Item 69) were analyzed with the chi-square test of independence.

Results

Total Test Scores

Means, standard deviations, and ranges of scores on the three instruments for each group of students are presented in Table 1.

The ATDP. An F of 3.87 ($df=3, 241$; $p<.01$) was obtained for the differences among the mean scores of the program groups on the ATDP. Moreover, an F of 12.51 ($df=1, 241$; $p<.01$) was calculated for the differences between the mean scores of males (76.35) and females (83.35) on this instrument.

TABLE 1
Means, Standard Deviations, and Ranges of Scores
on the Tests for Each Group of Students

Test	Group	Number of Students	Mean	S.D.	Range
ATDP ^a	Primary	66	79.47	14.68	48-111
	Intermediate	95	81.55	14.44	41-108
	Secondary	50	80.38	14.64	53-108
	Spec. Ed.	31	88.81	13.17	52-106
ATMS ^b	Primary	66	80.19	14.99	36-107
	Intermediate	95	77.22	15.02	29-103
	Secondary	50	77.90	12.24	56-105
	Spec. Ed.	31	85.00	10.57	59-103
ATIS ^c	Primary	66	121.91	18.17	85-160
	Intermediate	95	121.99	17.54	85-158
	Secondary	50	120.12	15.65	85-153
	Spec. Ed.	31	125.55	13.01	90-144

^aMaximum score = 120
^bMaximum score = 108
^cMaximum score = 180

TABLE 2
Analysis of Variance^a for the Mean Scores
of the Students on the ATDP

Source of Variation	Degrees of Freedom	Sums of Squares	Mean Square	F Ratio	p
Teaching Program	3	2313.5	771.18	3.87	<.01
Sex	1	2493.5	2493.5	12.51	<.01
Interaction	3	154.7	51.6	.26	>.05
Within	234	46655.0	199.4		
Total	241	51286.0			

^aBartlett's test for homogeneity of variances yielded a χ^2 of .523 ($df=3$; $p>.05$) which was not significant.

The Scheffé test was used to test for differences between pairs of program groups. The significance level was set at .10, as suggested by Scheffé (Ferguson, 1976, p. 297). These comparisons are shown in Table 3. On the basis of the findings of the comparisons it was concluded that the mean score of students in special education was significantly greater than the mean scores of students in primary and intermediate programs.

TABLE 3
Scheffé Test for Comparisons Between Pairs of Groups

Comparisons	<i>F</i> ^a	<i>p</i>
Primary, Intermediate	.77	>.10
Primary, Secondary	.12	>.10
Primary, Special Education	9.15	<.10
Intermediate, Secondary	.19	>.10
Intermediate, Special Education	6.25	>.10
Secondary, Special Education	6.81	<.10

^aThe value of *F* required for significance at the .10 level for *df*₁=3 and *df*₂=238 is 6.33.

The ATMS. As shown in Table 4, nonsignificant *F* values were determined when the data for the ATMS were arranged by program group (*F*=2.15; *df*=3,241; *p*>.05) and by sex (*F*=1.27; *df*=1, 241; *p*>.05). It was concluded that for the subjects in this sample neither teaching program nor sex were related to scores on the ATMS.

TABLE 4
Analysis of Variance^a for the Mean Scores
of the Students on the ATMS

Source of Variation	Degrees of Freedom	Sums of Squares	Mean Square	<i>F</i> Ratio	<i>p</i>
Teaching Program	3	1279.4	426.45	2.15	>.05
Sex	1	251.2	251.20	1.27	>.05
Interaction	3	172.8	57.61	.29	>.05
Within	234	46325.0	197.97		
Total	241	48314.0			

^aBartlett's test for homogeneity of variances yielded a χ^2 of 6.27 (*df*=3; *p*>.05) which was not significant.

The ATIN. An *F* of .43 (*df*=3, 241; *p*>.05) for the differences among the means for the program groups was not significant. An *F* of 4.35 (*df*=1, 241; *p*<.05) for the difference between the means of male (117.72) and female (123.40) respondents to the ATIN was statistically significant (see Table 5). Scores on this instrument were related to sex of the subjects, but they were unrelated to teaching program.

TABLE 5

Analysis of Variance^a for the Mean Scores
of the Students on the ATIS

Source of Variation	Degrees of Freedom	Sums of Squares	Mean Square	F Ratio	p
Teaching Program	3	357.6	119.20	.43	>.05
Sex	1	1209.4	1209.40	4.35	<.05
Interaction	3	1209.4	403.15	1.45	>.05
Within	234	65049.0	277.99		
Total	241	68035.0			

^aBartlett's test for homogeneity of variances yielded a χ^2 of 4.95 ($df=3$; $p>.05$) which was not significant.

Responses to Specific Items

The multivariate *t*-test, Hotelling's *T*²-test, was used to determine significant differences between pairs of program groups on the mean item scores for each instrument.

The ATDP. Two of the six group comparisons yielded significant *T*² values. A Hotelling's *T*² of 49.10 ($F=1.96$; $df=20, 76$; $p<.05$) for the comparisons of mean item scores for the primary and special education students identified significant *t* values ($p<.05$) in favor of the special education students on seven of the 20 items comprising the ATDP. As a group, special education students were more willing than primary students to reject statements that (a) parents should be less strict with handicapped children than with nonhandicapped children (Item 1); (b) disabled people feel sorry for themselves (Item 4), worry too much (Item 9), are often grouchy (Item 20), and are less happy than nondisabled people (Item 11); (c) it is not possible for disabled people to live "normal" lives (Item 13); and (d) disabled people prefer to keep to themselves (Item 15).

A Hotelling's *T*² of 47.19 ($F=2.00$; $df=20, 104$; $p<.05$) for the comparisons of mean item scores for intermediate and special education students identified significant *t* values ($p<.05$) in favor of the special education students on five of the 20 items in the ATDP. Special education students were more willing than intermediate students to reject statements that (a) parents should be less strict with handicapped children (Item 1); (b) disabled people feel sorry for themselves (Item 4) and are less happy than nondisabled people (Item 11); and (c) disabled people cannot live normal lives (Item 13). Intermediate students were more willing than special education students to accept the statement that our expectations for the disabled should not be very high (Item 14).

The ATMS. Hotelling's *T*²-test yielded significant *T*² values for two of the six group comparisons. A Hotelling's *T*² of 36.82 ($F=1.80$; $df=18, 125$; $p<.05$) for the comparisons of mean item scores of the intermediate and secondary students identified significant *t* values ($p<.05$) in favor of the secondary students on three of the 18 items in the ATMS. As a group, secondary students were more willing than intermediate students to accept ambulatory (Item 3) and nonambulatory physically handicapped children (Item 2) and blind children (Item 15) in regular classrooms.

A Hotelling's T^2 of 47.69 ($F=2.08$; $df=18, 62$; $p<.05$) for the comparisons of the mean item scores of the secondary and special education students identified significant t values ($p<.05$) in favor of the special education students on seven of the 18 items in the ATMS. Special education students were more willing than secondary students to place children with speech defects (Items 4 and 5), epilepsy (Item 6), mild retardation (Item 11), and hearing impairments (Item 16) in regular classrooms. Moreover, special education students were more willing than secondary students to acknowledge the "right" of handicapped children to be educated in the mainstream (Item 9) and to state that it is feasible to teach children with varying intellectual capacities in the same classroom (Item 10).

The ATIN. Significant Hotelling's T^2 values were calculated for three of the six group comparisons of six item scores. A Hotelling's T^2 of 106.79 ($F=2.47$; $df=30, 66$; $p<.01$) for the comparisons of the mean item scores of the primary and special education students yielded significant t values ($p<.05$) for 12 of the 30 items in the ATIN. Eight of the comparisons favored special education students; four of the comparisons favored primary students. Special education students were more willing than primary students to affirm that (a) the needs of handicapped children can best be met (Items 2 and 11), and should be met (Item 28), in the regular classroom; (b) the integration of handicapped children will not be detrimental to the education of nonhandicapped children (Items 5 and 9), and (c) integration will not present management problems for teachers (Items 7 and 17). The special education students were also less concerned than primary students that parents of handicapped children may present greater problems for teachers than parents of nonhandicapped children (Item 26). However, special education students were more willing than primary students to propose that teachers will have to be retrained for mainstreaming (Items 6 and 27) and that significant modifications of regular classroom procedures will have to be made (Item 13). Primary students were more convinced than special education students that segregated programs inhibit the social and emotional development of handicapped children (Item 10).

A Hotelling's T^2 of 113.05 ($F=2.88$; $df=30, 94$; $p<.01$) for the comparisons of the mean item scores of the intermediate and special education students yielded significant t values ($p<.05$) for eight of the 30 items in the ATIN. Five comparisons favored special education students; three comparisons favored intermediate students. In a pattern somewhat similar to the preceding, special education students were shown to be more accepting of the need for integrating handicapped children (Items 2 and 28) than were intermediate students. Moreover, special education students were less willing to state that integration would result in classroom management problems (Items 7, 17 and 24). As in the prior comparisons, special education students acknowledged more strongly the necessity for teacher retraining and for varying classroom procedures to accommodate handicapped children (Items 13, 16 and 27).

A Hotelling's T^2 of 131.72 ($F=2.78$; $df=30, 50$; $p<.01$) for the comparisons of the mean item scores of the secondary and special education students on the ATIN yielded significant t values ($p<.05$) for seven of the 30 items. The pattern revealed by this analysis resembled the pattern that emerged from the two other group comparisons of mean item scores on the ATIN. Five item comparisons favored special education students; two comparisons favored secondary students. Again, special education students were shown to be more favorably disposed toward educating handicapped children in regular programs (Items 2 and 28). They were also less concerned that classroom management problems would accompany integration (Items 5, 7 and 17). On the other hand, secondary students reported less concern

for teacher retraining and for the need to change regular classroom procedure (Items 7 and 13) than did special education students.

Negative responses. An examination of the mean item scores for all groups on the ATDP, the ATMS, and the ATIN disclosed that for some items the mean scores indicated a negative or unfavorable response for each education group. All groups accepted the need for special schools (ATDP-Item 6). All groups stated that teachers do not possess the skills requisite for mainstreaming (ATIN-Items 8, 16 and 20) and that they will have to be extensively retrained (ATIN-Item 27). Additionally, all groups agreed that integration will necessitate a modification of standard classroom procedures (ATIN-Item 13) and that handicapped children will require more patience from teachers than nonhandicapped children require (ATIN-Item 3). Students in all groups except special education recommended that children with behavioral problems should not be mainstreamed (ATMS-Item 12).

Item 69. This item required respondents to select the most suitable educational provisions for children with specific disabilities. The continuum from which the provisions were selected was described by Gearheart and Weishahn (1980, pp. 30-34). These provisions were: (1) Regular class, no assistance needed; (2) Regular class, consultative assistance from special educators; (3) Consultation plus materials from special educators; (4) Regular class and itinerant teacher services from special education; (5) Regular class and resource room, resource teacher services from special education; (6) Regular class half-time and special class half-time; (7) Special class in regular school, some integration for some children; (8) Special school; (9) Teachers provide instruction in child's home; and (10) Residential or boarding school. The data for each of the 13 disability groups (listed in Table 6) were arranged in a 4 X 10 contingency table and analyzed with the chi-square test of independence. In 12 of the 13 analyses, chi-square values were not significant. However, chi-square ($\chi^2=24.1$; $df=9$; $p<.01$) for the responses pertaining to the education of severely retarded children was statistically significant. Inspection of this contingency table revealed that a disproportionately large number of secondary students selected Category 10 (Residential or boarding school) as the most suitable educational environment for severely retarded children. As a result of these analyses, it was concluded that for the sample of students included in this study, education program and choice of educational provisions for handicapped children were not related, except when students were asked to select the appropriate learning environment for severely retarded children. Chi-square values, along with contingency coefficients for degree of association, are presented in Table 6. The most frequently selected categories of educational provisions are identified for each disability group.

Discussion

Attitudes Toward the Disabled

Mean scores for the primary, intermediate, secondary, and special education students on the ATDP indicate marginally favorable attitudes toward disabled persons. This conclusion concurs with the findings of similar studies conducted with students in education faculties (e.g., Drake, 1977; Kang, 1976; O'Neal & Lazar, 1979).

The finding that special education students were more accepting of the disabled than were students in the general education programs was also in agreement with findings of similar studies (Kiernan, 1974; Semmel & Dickson, 1966). In this investigation, the higher mean score on the ATDP of the special education students was

TABLE 6
Educational Provisions for Specific Disabilities
as Selected by Education Groups

Disabled Group	Category	Educational Provisions	% of Freq.	χ^2	p	C
<i>Slightly Retarded</i>	2.	Regular class, consultative assistance from special educators	37	3.1	>.05	.11
	3.	Regular class and consultation plus materials from special educators	19			
<i>Moderately Retarded</i>	7.	Special class, some integration	22	11.6	>.05	.21
	6.	Regular class half-time and special class half-time	20			
<i>Severely Retarded</i>	8.	Special school	48	24.1 ^a	<.01	.30
	7.	Special class, some integration	30			
<i>Slightly Physically Disabled</i>	1.	Regular class, no assistance needed	58	6.9	>.05	.16
	2.	Regular class, consultative assistance from special educators	26			
<i>Moderately Physically Disabled</i>	1.	Regular class, no assistance needed	36	6.1	>.05	.15
	2.	Regular class, consultative assistance from special educators	34			
<i>Severely Physically Disabled</i>	7.	Special class, some integration	19	10.6	>.05	.20
	8.	Special school	17			
<i>Slightly Visually Impaired</i>	1.	Regular class, no assistance needed	35	6.6	>.05	.16
	2.	Regular class, consultative assistance from special educators	35			
<i>Moderately Visually Impaired</i>	3.	Regular class and consultation plus materials from special educators	41	5.7	>.05	.15
	2.	Regular class, consultative assistance from special educators	21			
<i>Blind</i>	7.	Special class, some integration	30	11.4	>.05	.21
	8.	Special school	26			
<i>Slightly Hearing Impaired</i>	2.	Regular class, consultative assistance from special educators	37	5.2	>.05	.14
	1.	Regular class, no assistance needed	31			

Disabled Group	Category	Educational Provisions	% of Freq.	χ^2	p	C
<i>Moderately Hearing Impaired</i>	3.	Regular class and consultation plus materials from special educators	32	7.2	>.05	.16
	2.	Regular class, consultative assistance from special educators	20			
<i>Deaf</i>	7.	Special class, some integration	32	8.6	>.05	.18
	8.	Special school	25			
<i>Emotionally Disturbed</i>	7.	Special class, some integration	30	11.8	>.05	.21
	6.	Regular class half-time and special class half-time	21			

^a Inspection of the cells revealed that a disproportionately large number of secondary students selected category 10 (residential or boarding schools) as the most suitable educational environment for severely retarded children.

attributed to their greater willingness to reject common stereotypes of the disabled. Possible explanations may be found in studies that concluded that courses in special education, especially those that provide personal contact with disabled persons, may enhance attitudes toward the disabled (Donaldson & Martinson, 1977; Drake, 1977; Skrtic, Clark, & White, 1982; Stephens & Braun, 1980). Furthermore, there is evidence that students who enroll in special education programs enter university holding more positive attitudes toward the disabled than do students who enroll in other education programs (Semmel & Dickson, 1966). It is probable that interest in the disabled is a major factor when students elect to register in special education programs.

The finding that females were more predisposed than males to accept disabled persons replicated the findings of a number of studies involving university students in which the ATDP was used (Yuker et al., 1970, pp. 126-127).

Attitudes Toward Mainstreaming

Total mean scores of the primary, intermediate, secondary, and special education students on the ATMS and the ATIN and their selections of suitable educational environments for children with specific disabilities (Item 69) indicated modest, qualified support for mainstreaming. They supported mainstreaming for mildly disabled children, but they recommended restrictive environments for children with severe disabling conditions. Similar support for mainstreaming was found in studies of university students' attitudes reported by Leyser, Abrams, and Lipscomb (1972), Warger and Trippe (1982), and Winzer (1984a, 1984b).

Analyses of total test scores on the ATMS and the ATIN suggested no differences in degree of commitment to mainstreaming among the four education groups. This finding is inconsistent with studies that determined a positive relationship between number of special education courses completed and acceptance of mainstreaming (Mandell, 1976; Naor & Milgram 1980; Stephens & Braun, 1980). To some extent, this anomaly may be explained by examining responses to individual test items. Although a common pattern was observed in the direction of the

responses to each item in the ATMS and the ATIN (that is, mean scores for each education program group were either all favorable or all unfavorable for a particular item), differences in strength of opinion (that is, in the selection of "Slightly Agree," "Agree," and "Strongly Agree" or "Slightly Disagree," "Disagree," and "Strongly Disagree") concerning agreement or disagreement with certain items differentiated the responses of special education and regular program students on a number of aspects of attitude toward mainstreaming. These differences were not apparent when only total test scores were considered. For example, special education students' responses to the ATIN revealed a greater willingness than other students to integrate handicapped children, but higher scores for special education students on this aspect of mainstreaming were offset by lower scores for items dealing with the adequacy of teachers to manage handicapped children in regular classrooms. It is probable that differences noted on these items reflected both special education students' more favorable attitudes toward disabled persons and their special education training which emphasized the development of complex diagnostic and prescriptive skills as requisite preparation for teaching handicapped children.

The concern of all groups for providing training to assist teachers to develop the skills necessary to teach handicapped children in regular classrooms has been stated frequently in investigations of teachers' assessments of mainstreaming (e.g., Flynn, Gack, & Sundean, 1978; Gickling & Theobald, 1975; Johnson & Cartwright, 1979; Reynolds, Martin-Reynolds, & Mark, 1982; Ringlaben & Price, 1981).

Although sex is a factor in many assessments of attitude toward the disabled, it has seldom been found to be a significant factor in attitudes toward mainstreaming. The few studies that have reported relationships between sex and attitudes toward mainstreaming have produced contradictory results. In agreement with the present study, Berryman and Berryman (1981) found no relationship between sex and scores on the ATMS. McCauley, Morris, and Cooper (1978) and Stephens and Braun (1980) reached a similar conclusion in their analyses of male and female responses on different measures of attitude toward mainstreaming. Alternatively, Winzer (1984a) reported that females scored significantly higher than males on a scale measuring attitudes toward mainstreaming that she developed. Sex was a factor in the responses of university students to the ATIN in the present study. The mean score on the ATIN of female subjects was significantly higher than the mean score of male subjects. Clearly, additional information is needed in this area.

Analysis of responses to Item 69 revealed a consensus of opinion concerning appropriate educational provisions for children with specific disabilities. Over 90 percent of the students suggested that children who are slightly or moderately physically disabled, visually impaired, or hearing impaired can be accommodated in regular classrooms, with consultative assistance and teaching materials provided by specialists when required. Less than 60 percent of the students recommended these provisions for slightly retarded children. Restrictive environments that include special classes and separate schools were considered to be suitable for children who are moderately or severely retarded, severely physically disabled, emotionally disturbed, blind or deaf. Almost 30 percent of the students in the secondary program thought that severely retarded children should be taught in residential or boarding schools.

A general pattern emerges when responses to this item are compared with teachers' opinions about integrating handicapped children: Handicapped children most frequently acknowledged by teachers as being suitable for integration are those who are slightly to moderately physically disabled, visually impaired, or hear-

ing impaired, and the children most frequently rejected for placement in regular programs are those who are emotionally disturbed, retarded, blind, or deaf (Badt, 1957; Payne & Murray, 1974; Wechsler, Suarez, & McFadden, 1975; Williams & Algozzine, 1979). This pattern is analogous to patterns that occur when social distance scales are used as measures of attitude toward disabled groups (Jones, Gottfried, & Owens, 1966; Shears & Jensema, 1969; Tringo, 1970) or when respondents are asked to rank disabilities according to social acceptability or severity (Barsch, 1964; Vander Kolk, 1976).

Implications for Classroom Practice

The findings of this investigation pose serious problems that should be addressed if beginning teachers are to be assigned to mainstreamed classrooms. The findings suggest that graduates of teacher education programs, including special education, may enter the teaching profession only marginally committed to mainstreaming, and that their concept of mainstreaming may include only mildly handicapped children. As a group, the students in both regular and special education accepted restrictive educational environments for certain children. As teachers it is likely that they will resist mainstreaming policies that place children with mental retardation or severe physical or sensory impairments in their classrooms. Additionally, these students acknowledged their inadequate preparation for teaching handicapped children in mainstreamed classrooms, and it is probable that as teachers they will accept mainstreaming on condition that support be provided them from special educators. This demand for supportive services from specialists will necessitate an increase in special education staff in many districts. Furthermore, it is likely that as teachers these students will expect to attend workshops, seminars, training sessions, etc. as preparation for teaching in integrated settings. Attention to these concerns is important. There is an increasing body of evidence suggesting that when teachers do not possess a high degree of commitment to mainstreaming or when they perceive themselves to be inadequately trained to manage a variety of disabling conditions in their classrooms, the efficacy of a mainstreamed program is seriously threatened ("Jimmy's Teacher," 1977; Kavanagh, 1977; "The School Year," 1977).

Summary

The attitudes of education students in a large Canadian university toward the disabled and toward mainstreaming were reported in this article. Students in primary, intermediate, secondary, and special education programs were found to be mildly accepting of disabled people and of mainstreaming. Special education students were somewhat more favorably predisposed toward the disabled and toward integrating children with certain disabilities than were students in regular education programs. Students in all program groups stated that teachers are not sufficiently prepared for mainstreaming. There was consensus of opinion that retarded, severely physically disabled, blind, and deaf children should not be integrated into regular classrooms.

References

- Badt, M. (1957). Attitudes of university students toward exceptional children and special education. *Exceptional Children*, 23, 286-290, 336.
- Barngrover, E. (1971). A study of educators' preferences in special education programs. *Exceptional Children*, 37, 754-755.
- Barsch, R. (1964). The Handicapped Ranking Scale among parents of handicapped children. *American Journal of Public Health*, 54, 1560-1567.
- Berryman, J., & Berryman, C. (1981). *Use of the "Attitudes Toward Mainstreaming Scale" with rural Georgia teachers*. Athens, GA: University of Georgia. (ERIC Document Reproduction Service No. ED 201 420)
- Berryman, J., & Neal, W. (1980). The cross validation of the Attitudes Toward Mainstreaming Scale (ATMS). *Educational and Psychological Measurement*, 40, 469-474.
- Berryman, J., Neal, W., & Robinson, J. (1980). The validation of a scale to measure attitudes toward classroom integration of disabled children. *The Journal of Educational Research*, 73, 199-203.
- Blatt, B. (1979). A drastically different analysis. *Mental Retardation*, 17, 303-306.
- Bradfield, R., Brown, J., Kaplan, P., Rickert, E., & Stannard, R. (1973). The special child in the regular classroom. *Exceptional Children*, 39, 384-390.
- Budoff, M., & Gottlieb, J. (1976). Special-class EMR children mainstreamed: A study of an aptitude (learning potential) X treatment interaction. *American Journal of Mental Deficiency*, 81, 1-11.
- Chesler, M. (1965). Ethnocentrism and attitudes toward the physically disabled. *Journal of Personality and Social Psychology*, 2, 877-882.
- Childs, R. (1981). Perceptions of mainstreaming by regular classroom teachers who teach mainstreamed educable mentally retarded students in the public schools. *Education and Training of the Mentally Retarded*, 16, 225-227.
- Donaldson, J., & Martinson, M. (1977). Modifying attitudes toward physically disabled persons. *Exceptional Children*, 43, 337-341.
- Drake, G. (1977). *A comparative study of pre and post-semester attitudes toward the handicapped of students in introductory special education classes*. Lexington, KY: Fayette School. (ERIC Document Reproduction Service No. ED 139 221)
- Dunn, L. (1968). Special education for the mentally retarded—is much of it justified? *Exceptional Children*, 35, 5-22.
- Dunn, L. (1973, November). *The normalization of special education*. Saskatoon: University of Saskatchewan, Laycock Memorial Lecture.
- Eisler, R. (1964). *The relationship between stability of self-concept and acceptance of the disabled and aged*. Unpublished master's thesis, Hofstra University, Hempstead, NY.
- Elsberry, N. (1975). Comparison of two scales measuring attitudes toward persons with physical disabilities. *Psychological Reports*, 36, 473-474.
- Epstein, S., & Shontz, F. (1961, September). *Attitudes toward persons with physical disabilities as a function of attitudes toward one's own body*. Paper presented at the meeting of the American Psychological Association, New York.
- Ferguson, G. (1976). *Statistical analysis in psychology and education*. New York: McGraw-Hill.
- Flynn, J., Gack, R., & Sundean, D. (1978). Are classroom teachers prepared for mainstreaming? *Phi Delta Kappan*, 59, 562.
- Gearheart, B., & Weishahn, M. (1980). *The handicapped student in the regular classroom* (2nd ed.). St. Louis: C. V. Mosby.
- Gickling, E., & Theobald, J. (1975). Mainstreaming: Affect or effect? *Journal of Special Education*, 9, 317-328.

- Green, K., Rock, D., & Weisenstein, G. (1983). Validity and reliability of a scale assessing attitudes toward mainstreaming. *Exceptional Children*, 50, 182-183.
- Guerin, G., & Szatlocky, K. (1974). Integration programs for the mentally retarded. *Exceptional Children*, 40, 173-179.
- Herlihy, J., & Herlihy, M. (1980). *Mainstreaming in the social studies* (NCSS Bulletin 62). Washington: National Council for the Social Studies.
- Horne, M. (1980). *How attitudes are measured* (ERIC/TM Report 78). Princeton: ERIC Clearinghouse on Tests, Measurement and Evaluation.
- Jimmy's teacher doesn't think she can work with him another day. (1977). *The Exceptional Parent*, 7(5), 23-29.
- Johnson, A., & Cartwright, C. (1979). The roles of information and experience in improving teachers' knowledge and attitudes toward mainstreaming. *Journal of Special Education*, 13, 453-462.
- Johnson, G. (1962). Special education for the mentally handicapped—a paradox. *Exceptional Children*, 29, 62-69.
- Jones, R., Gottfried, N., & Owens, A. (1966). The social distance of the exceptional: A study at the high school level. *Exceptional Children*, 32, 551-556.
- Kaiser, P., & Moosbrucker, J. (1960). *The relationship between attitudes toward disabled people and GSR*. Unpublished manuscript, Human Resources Library, Human Resources Center, Albertson, NY.
- Kang, Y. (1976). Attitudes toward blindness and blind people among theological and education students. *Dissertation Abstracts International*, 37, 1490A. (University Microfilms No. 76-19, 916)
- Kavanagh, E. (1977). A classroom teacher looks at mainstreaming. *Elementary School Journal*, 77, 318-322.
- Kiernan, W. (1974). Attitude change in beginning education students resulting from exposure to the vocational and social capabilities of the disabled adult. *Dissertation Abstracts International*, 35, 1532A. (University Microfilms No. 74-19, 727)
- Knittel, M. (1964). A comparison of attitudes toward the disabled between subjects who had a physically disabled sibling and subjects who did not have a physically disabled sibling. *Dissertation Abstracts*, 24, 4084-4085. (University Microfilms No. 64-2440)
- Kunc, N. (1984). Integration: Being realistic isn't realistic. *Canadian Journal for Exceptional Children*, 1(1), 4-8.
- Lamers, G. (1965). *A comparison of self-attitudes and socially acceptable attitudes measured by the ATDP*. Unpublished master's thesis, University of Wisconsin-Madison.
- Larivée, B. (1981). Effect of inservice training intensity on teachers' attitudes toward mainstreaming. *Exceptional Children*, 48, 34-38.
- Larivée, B. (1982). Factors underlying regular classroom teachers' attitudes toward mainstreaming. *Psychology in the Schools*, 19, 374-379.
- Larivée, B., & Cook, L. (1979). Mainstreaming: A study of the variables affecting teacher attitude. *Journal of Special Education*, 13, 315-324.
- Lazar, A., & Stodden, R. (1977). A study of the ATHI and ATDP scales. *DOPHHH Journal*, 3(3), 6-9.
- Lazar, A., Stodden, R., & Sullivan, N. (1976). A comparison of attitudes held by male and female future school administrators toward instructional goals, personal adjustment, and the handicapped. *Rehabilitation Literature*, 37, 198-201.
- Leyser, Y., Abrams, P., & Lipscomb, E. (1972). Modifying attitudes of prospective elementary school teachers toward mainstreaming. *Journal for Special Educators*, 18(4), 1-10.
- Linton, T., & Juul, K. (1980). Mainstreaming: Time for reassessment. *Educational Leadership*, 37, 433-437.
- Mandell, C. (1976). Factors related to the regular teacher's attitudes toward mainstreaming mildly educationally handicapped children into the regular classroom. *Dissertation Abstracts International*, 37, 7076A. (University Microfilms No. 77-10, 916)

- McCauley, R., Morris, P., & Cooper, K. (1978). The placement of handicapped children by Canadian school personnel. *Education and Training of the Mentally Retarded*, 13, 367-379.
- Moore, J., & Fine, M. (1978). Regular and special class teachers' perceptions of normal and exceptional children and their attitudes toward mainstreaming. *Psychology in Schools*, 15, 253-259.
- Naor, M., & Milgram, R. (1980). Two preservice strategies for preparing regular class teachers for mainstreaming. *Exceptional Children*, 47, 126-129.
- Noonan, J., & Barry, J. (1970). Personality determinants in attitudes toward visible disability. *Journal of Personality*, 38, 1-15.
- Olkin, R. (1982). Attitudes toward visible physical disabilities. *Dissertation Abstracts International*, 42, 4402A. (University Microfilms No. DA8206231)
- O'Neal, W., & Lazar, A. (1979). *Studying attitude acceptance of college students toward the handicapped with sex and age as factors*. Long Beach: School of Education, California State University Long Beach. (ERIC Document Reproduction Service No. ED 193 824)
- Payne, R., & Murray, C. (1974). Principals' attitudes toward integration of the handicapped. *Exceptional Children*, 41, 123-125.
- Peterson, C., Peterson, J., & Scriven, C. (1977). Peer imitation by nonhandicapped and handicapped preschoolers. *Exceptional Children*, 43, 223-224.
- Reynolds, B., Martin-Reynolds, J., & Mark, F. (1982). Elementary teachers' attitudes toward mainstreaming educable mentally retarded students. *Education and Training of the Mentally Retarded*, 17, 171-176.
- Ringlaben, R., & Price, J. (1981). Regular classroom teachers' perceptions of mainstreaming effects. *Exceptional Children*, 47, 302-304.
- Schmelkin, L. (1981). Teachers' and nonteachers' attitudes toward mainstreaming. *Exceptional Children*, 48, 42-47.
- Semmel, M., & Dickson, S. (1966). Connotative reactions of college students to disability labels. *Exceptional Children*, 32, 443-450.
- Sheare, J. (1974). Social acceptance of EMR adolescents in integrated programs. *American Journal of Mental Deficiency*, 78, 678-682.
- Shears, L., & Jensema, C. (1969). Social acceptability of anomalous persons. *Exceptional Children*, 36, 91-96.
- Sheldon, J., & Sherman, J. (1975). The right to education for the retarded. *Journal of Education*, 156(3), 25-48.
- Siller, J. (1964). Personality determinants of reaction to the physically disabled. *American Foundation for the Blind Research Bulletin*, 7, 37-52.
- Skrtic, T., Clark, F., & White, W. (1982). Modification of attitudes of regular education preservice teachers toward visually impaired students. *Visual Impairment and Blindness*, 76(2), 49-52.
- Stephens, T., & Braun, B. (1980). Measures of regular classroom teachers' attitudes toward handicapped children. *Exceptional Children*, 46, 292-294.
- Swingle, P. (1962). *The relationship between temperament type and attitudes toward disabled persons*. Unpublished master's thesis, Hofstra University, Hempstead, NY.
- Szuhay, J. (1961). The development of attitudes toward the physically disabled. *Dissertation Abstracts*, 22, 2641. (University Microfilms No. 61-5615)
- The school year has been a total disaster. (1977). *The Exceptional Parent*, 7(5), 25-29.
- Tringo, J. (1970). The hierarchy of preference toward disability groups. *Journal of Special Education*, 4, 295-306.
- Turnbull, A., & Schulz, J. (1979). *Mainstreaming handicapped students: A guide for the classroom teacher*. Boston: Allyn & Bacon.
- Vander Kolk, C. (1976). Physiological and self-reported reactions to the disabled and the deviant. *Rehabilitation Psychology*, 23, 77-83.

- Warger, C., & Trippe, M. (1982). Preservice teacher attitudes toward mainstreamed students with emotional impairments. *Exceptional Children*, 48, 246-252.
- Wechsler, H., Suarez, A., & McFadden, M. (1975). Teachers' attitudes toward the education of physically handicapped children: Implications for the implementation of Massachusetts Chapter 766. *Journal of Education*, 157(1), 17-24.
- Wesolowski, M. (1978). The relationship between psychophysiological indicants of autonomic arousal and attitudes toward physically disabled persons. *Dissertation Abstracts International*, 38, 6032A. (University Microfilms No. 7804324)
- Williams, R., & Algozzine, B. (1979). Teachers' attitudes toward mainstreaming. *Elementary School Journal*, 80, 63-67.
- Winer, B. (1971). *Statistical principles in experimental design*. New York: McGraw-Hill.
- Winzer, M. (1984a). The effect of information on the attitudes of teachers and noneducators toward mainstreaming. *B.C. Journal of Special Education*, 8, 273-282.
- Winzer, M. (1984b). Mainstreaming the handicapped child: Attitudes of teachers and non-teachers. *Canadian Journal for Exceptional Children*, 1(1), 23-26.
- Wolfensberger, W. (1972). *The principle of normalization in human services*. Toronto: National Institute on Mental Retardation.
- Yuker, H., Block, J., & Young, J. (1970). *The measurement of attitudes toward disabled persons*. Albertson, NY: Human Resources Center, Ina Mend Institute. (ERIC Document Reproduction Service No. ED 44 853)
- Ziegler, S., & Hambleton, D. (1976). Integration of young TMR children into a regular elementary school. *Exceptional Children*, 43, 459-461.

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Towards Understanding the Lived World of Three Beginning Teachers of Young Children¹

The purpose of this study was to discover what it is like to be a beginning teacher of young children. A qualitative research approach was used with the researcher involved in the school setting of each of three teachers on a weekly basis as a participant observer and interviewer. Initially descriptive portrayals of each teacher's experiences were developed. As themes began to emerge, the researcher sought to interpret the underlying meaning. Seven themes were developed around the beginning teacher as stranger, "I'm a real teacher at last," caring, struggle for control, uncertainty leading to distress, help, and time. The researcher then reflects on what meaning the study has for her and other teacher educators.

"What is it really like the first day of school—the first few weeks of school, indeed the first year?" Having worked with senior undergraduate early childhood education students for a number of years, I have frequently been asked this question. As a teacher educator I have often asked myself, "How do our graduates experience those first few days, weeks?" I have my memories of what it was like for me, and I have listened as others shared their recollections. What is it that makes this time in one's life stand out so clearly years later? Would it be possible for me to gain a deeper understanding of this experience so I could help graduating students enter the profession with increased self-confidence, assurance, and a reflective attitude?

The literature dealing with beginning teaching falls roughly into four categories: personal accounts of a teacher's first year, articles offering advice to beginning teachers, studies utilizing extensive surveys and questionnaires (Collins, 1969; Bond & Smith, 1967; Southwell, 1970; Tisher, 1979; Edmonds & Bessal, 1979) and those that focus on a few teachers in specific situations (Eddy, 1969; Ryan, 1970; Ryan,

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Newman, Mager, Applegate, Lasky, Flora and Johnson, 1980; Applegate, 1977; Newberry, 1978; Felder et al., 1979; Hawke, 1980.)

While the survey and questionnaire studies have been able to report general trends and experiences of large numbers of beginning teachers, most lack a sensitivity to the meaning of these experiences for the individual teachers involved.

The studies by Applegate (1977), Felder et al. (1979), and Hawke (1980) came closest to answering the question "What is it like to be a beginning teacher?" They all used qualitative research methods and followed the teachers through part of their first year. While they provided detailed factual descriptions of what it was like for beginning teachers, to some extent, they failed to disclose the meaning the teachers were giving to their experiences. However, Tardif (1985) has described the process of becoming a teacher from the vantage point of student teachers during their practicum. Some of her findings will be referred to in the reflections section of this article.

The main purpose of the present study was not only to describe beginning teachers' experiences, but to penetrate into the world of meaning the teachers gave to their experiences.

Research Process

In considering the life world of a beginning teacher, one immediately thinks of the apparent features such as size and location of school, materials to work with, the daily activities children engage in, administrative guidance, parent conferences and so forth. These are a real part of the teacher's objective world. However, the lived world of a beginning teacher encompasses not only what she² encounters as she enters her new profession, but also the meaning she gives to the situation. She is both affected by, and affects, the world into which she enters. If we are to understand what her world is really like we must try to uncover what she is experiencing, how she feels, and why she is doing certain things. Qualitative methodologies assume there is value to an analysis of both the inner and outer perspective of human behavior.

An ethnographic approach enabled the researcher to become familiar with the everyday happenings in the new teacher's world, as well as delve into the meaning these happenings had for each participant.

Three graduates of the Early Childhood Education Major at the University of Alberta agreed to participate in the study. They were selected from a list of beginning teachers placed in Kindergarten to grade three classes with a local school board. "Patti" had known from June that she would be teaching two Kindergarten classes in a relatively new suburban school. "Caroline" had been hired in June to teach Kindergarten half days in a small inner city school. She felt that teaching half time in her first year would enable her to "really be on top of things" and not feel too pushed. In December her half-time position became full-time with her teaching a grade five class in the afternoons. While "Joy" had been awarded a contract in March, it was not until the first of September that she was assigned to a grade two class in a new suburban school.

In order to develop an in-depth understanding of the participants in their unique situations, on-site observations and interviews were carried out over a period of six months. The researcher spent one day per week with each teacher from late August through January, as well as attended special orientation workshops, induction and welcoming events sponsored by the school board and the Alberta Teachers' Association. In December, one continuous week was spent in each

teacher's classroom. Interviews were dialogical in nature with the teachers speaking of those events, situations and feelings that had taken on significance during the week. The observations enabled the researcher to gain a deeper understanding of the situation within which each of the new teachers found themselves. Observations were regularly noted in a journal, interviews were tape recorded and then transcribed while the essence of informal chats were paraphrased and noted as soon as possible. Contact was maintained with the teachers for a further six months through informal meetings and interviews. Ethnography, as an interpretive methodology, was used to enable each teacher to articulate and interpret the reality of her own life world. While each of the principals was interviewed, the focus of the study was on the perspective of the new teacher. In this paper I've chosen to highlight some of Joy's experiences during her first year of teaching. While the same could be done for Patti and Caroline, space prohibits such an expansion. Following Joy's story, some of the themes that emerged from my reflections upon the beginning teacher's experiences will be developed. In conclusion, I shall comment on what I feel this study has to say to teacher education in general.

Joy's First Year

Even though Joy claims to have "fallen into teaching," her decision to pursue a career in education was based on actual teaching experience with young children. She came to it with an understanding of what was involved and the knowledge that she liked working with children. In her words:

It was not really planned. I hadn't even taken the academic route in high school so when I decided to go to University I had to go back and get Math. After working in several teaching situations I guess I felt I needed to back up my experience with credentials, 'cause no school system would look at me. I could have been an aide but I felt better qualified than that. I never actually planned to be a teacher. I just sort of fell into it. (83.01.19)³

Once Joy decided to pursue a degree in teaching, education took on a new meaning for her. She saw each course and each professor as an opportunity to find out more about working with children. She appreciated the genuine interest many of her professors took in her. "You don't really carry away anything that's lasting or going to affect your life unless you're interacting with people who seem to have a real interest in you as a person." (83.02.24)

Upon leaving University, Joy felt well prepared—"I knew a lot of stuff and I'd had a lot of experience" (83.02.24). She felt good about herself and her abilities.

While Joy had been awarded a contract in March, it wasn't until September 1 that she knew her placement would be a grade two class. The lateness of her appointment left her with little time to review curriculum and create her desired learning environment before she met her 30 students. This resulted in considerable frustration all fall.

I want to provide an active learning environment but I don't know the grade two curriculum well enough to translate it into an activity oriented approach. So although I feel most comfortable working with small groups in centers, it just isn't a feasible alternative right now. I guess I'll have to settle for more large group time and seat work activities. (82.09.03)

The nature of her grade two class ranged from non-readers to academically advanced, highly task oriented to those who were in constant motion, mostly directed at disturbing others. As the school served a new suburban area students were constantly transferring in and out of her class.

During Joy's first week a number of problems seemed to surface. Some of these persisted throughout much of the year. Others disappeared after a while. "Exhausted" was the word that came up often in describing those first few days.

I'm so exhausted at the end of the day I can't concentrate on preparing the details for the next one. I've been taking the manuals and books home and do my preparation in the evenings. Then I have to bring all the materials back in the morning. (82.09.09)

The first few days in any new job require considerable adjustment as one becomes familiar with the people, the routines and the expectations. Later she spoke of different kinds of exhaustion.

The first day when I went home I was physically exhausted. On the second day I was mentally exhausted. I find I can't think too clearly about what long range plans I want. I have to work late just getting ready for the next day. (82.09.09)

Joy continued to struggle with an unfamiliar curriculum, a lack of supplies (adequate textbooks and workbooks were not available until October) and materials that were too abstract for many of her slower children. While Joy believed all these problems could be rectified she lacked sufficient time.

Sometimes I feel really pressured to get all my preparation done, get through the guides, collect materials, and still meet my social responsibilities. My husband's been on his own ever since I got my position. (82.09.09)

Joy believed that "children are individuals who need to be considered as a whole . . . need to be guided, cherished, respected, loved" (82.12.02) and she introduced several activities aimed at enabling the children and herself to get to know each other better and value each one's special interests and abilities. To her, the essence of good teaching was knowing and caring for each unique student. She felt that an activity/learning center approach would best provide for her divergent group. "Over the Thanksgiving weekend I spent all day Sunday getting the room organized. I really felt I'd accomplished something" (82.10.12).

Each week new features appeared in Joy's room. Every three or four weeks a new theme display was put up with related words for story writing. Displays of children's poems, stories, and art works were regularly changed. Center activities related to ongoing themes were featured from time to time. The classroom was indeed "child friendly." There was more emphasis on what happened than how it looked.

I've found I can't do everything I want to. It's impossible. I could spend 18 hours a day and I'd still never have a lot of things I wanted to get done. . . there are levels of importance and let's get down to what's really important and get that done if nothing else . . . where I am now is to focus on the positive things I can do to promote the children's self-concept. Their motivation, their willingness to learn. (83.02.24)

What happens within the classroom for the children and teacher is really the essential element in education. There was an understanding transformation over the year. In the fall, both Joy and the children faced a new situation. For the children there was a new teacher, a new approach, new materials and for about half of them a new school. In addition to adjusting to these, Joy was also responsible for administrative details, fitting into an existing school structure, getting to know 30 children's abilities and planning suitable learning for them. In thinking back over her initial adjustment to school life Joy commented,

People deal with stress in different ways but I feel I was more rigid and tense with the class in the beginning. I tried to be really prepared for each day. . . I maintained a pretty formal situation until I got to know the class and children. (83.05.16)

Each new situation and each new encounter with children, staff or parents had to be considered in terms of what's the most appropriate action now, what's the

most efficient way to get this done, what's the school policy for this? As the year progressed Joy found

it took less energy to deal with all these things. Many of them became almost automatic so I had a lot more time to think about what I was doing with the children. (83.05.16)

Throughout the year there were numerous activities set up to orient and help new teachers. In February as Joy reflected on these she commented, "I think they provided more refreshing breaks than support. I've valued the times I could get away, I think I did learn some things from the seminars." However, she did experience some conflict in terms of time:

Maybe the seminars are worthwhile in the long run, but I'm so tired after school I don't feel like going and if they schedule them during the day one has to do extra planning for the sub. I still don't find time to go to evening seminars. (83.02.24)

She valued most the ones that were directly related to her interests and needs. "As a new teacher there have been several that I've had to attend but this one was the first one that was really for me—my interest" (83.02.01). These seemed to reassure her that what she was doing was acceptable pedagogically. Throughout the year time figured high on her assessment of support. Was an event worth the time taken away from planning? Was it really worth the extra effort of planning for a substitute teacher? Self-selection also seemed important. Her enthusiasm was always greater when she was able to select sessions that she deemed pertinent to her particular needs and interests at that time.

By February, things seemed to be on a real upswing for Joy. At last she really felt on top of it all. Good things were beginning to happen for the children.

Some of the kids are really bursting into reading now—some of the really slower kids—and that's exciting to be in on. The whole book-making thing has been pretty exciting. The kids are really into it now. They'll go to the writing center and create a book of their own. (83.03.31)

Although she "still didn't have enough time for all she wanted to do," she'd learned to live with it. Now she knew the children and the grade two expectations, she wasn't so upset if she didn't get everything thoroughly planned, or have the room exactly as she hoped. Both she and the children were more relaxed. They knew and liked each other, and together they had created a landscape they felt comfortable in.

As the researcher interpreted and portrayed the teacher's experiences, further questions arose that were explored with the teachers. As the year progressed, certain experiences and feelings seemed to surface over and over again as emergent themes in the teacher's experiences. The researcher focused on these in an attempt to gain an understanding of what they meant to the teachers. Sometimes what was very important for one teacher did not hold much importance for the others. However, a number of themes like struggle for control, someone cares, there's never enough time, were relevant to each of the three teachers in the study.

Themes Emerging From Beginning Teachers' Experiences

The Beginning Teacher as Stranger: From Student to Teacher

It may seem inappropriate to consider beginning teachers as strangers. After all, they have spent most of their lives in classrooms, so it would seem this move back into a school should be an easy, natural step. However, their time was done as students, and in our society there is a distinction between the roles of student and teacher. Generally, it is held that a student is one who learns: a teacher is one who teaches. As the new teacher becomes one of "them" she must put aside much that

has been taken for granted in her student role and learn new roles and take on new responsibilities. She could be thought of as the homecomer returning to a familiar place after an absence. She can no longer take things for granted. She must question things not normally questioned. She must come to a new understanding of school so she can participate appropriately in the ongoing activities. Although the Bachelor of Education program is designed to prepare beginning teachers for this new role, it may tend to relegate them to the role of student throughout the four years. Even field placement, which is intended to provide practical experience in being a teacher, requires her to fit into another teacher's existing framework and teach in an "acceptable" (to the teacher and faculty consultant) way if she is to get an acceptable report.

Usually a chosen entry into a new situation is viewed as an opportunity to experience new things and is approached with both pleasure and anxiety. In the present study each of the three teachers was looking forward to this new adventure.

While Caroline initially felt comfortable in her new school, as she became more familiar with the existing staff's point of view, she realized that there were more differences than she had first realized. In Nash's words, "His (her) greater familiarity with the host and their ways tend to make him (her) more aware of the gulf which separates him (her) from them" (1963, p. 164). Not only do new teachers experience themselves as strangers in the situation, but they may be viewed by the existing establishment as a stranger to be somewhat wary of.

Patti's entry into Alnwick was somewhat different. With a staff of 25 there were many different personalities and beliefs. Patti approached the situation cautiously. "I just wanted to feel everyone out. . . . At first you don't know where you fit in." While it was important to Patti to be accepted and liked by the staff, she often felt like an outsider that first fall. Even though Patti became a fully participating member of the staff, conforming to many of the school practices, she remained somewhat detached and questioning throughout the year. Patti's adaptation to the new situation was eased somewhat when she found a like-minded ally in Sal, the other new teacher at her school. Together they were able to share their doubts (are we ever going to fit in?) and their hopes. Although they felt separate from the established staff, they had the support of each other.

Joy tended to maintain her own views and was neither much affected by what the existing staff norms and beliefs were, nor did she attempt to promote her own beliefs within the established culture. Although she accepted many of the host school's norms, Joy remained somewhat marginal throughout the year. "In some ways it's a relief to know I'm not going to be here next year. I don't feel so much pressure to conform."

"I'm a Real Teacher at Last"

While it is generally accepted that "parents are a child's first teacher" and that most everyone is involved in "teaching" at some time in their lives, society requires a formalized preparation for those who are going to be a "real teacher" in an authorized school.

Prior to entering the Faculty of Education, Joy had taught in a nursery school for three years. For her there had been a difference between her student teaching and earlier teaching experiences. As a "real" teacher she had made decisions and taken responsibility for them. She was involved in creating her own reality. As a "student" teacher she was often expected to translate someone else's choices into action and the "real" teacher was ultimately responsible for what happened. There

was little opportunity to experience any control over the situation or what she was to do, for during field placement the student enters another person's classroom part way through the year and "you don't know what happened before," nor do they experience the completion of the year. No matter how much practicum there is in a student's program, they are always working in a situation where someone else has laid out the expectations, and is ultimately responsible for what happens. As students graduate and are assigned to their own classrooms this may well be the most significant transformation they will have to make. Suddenly hundreds of decisions must be made every day for which the teacher is responsible and answerable.

As these three teachers entered their first year as "real" teachers, Patti was very conscious of the way "the system" expected things to be done. Initially she conformed to "the unexpected," which provided guidelines for her actions and enabled her to fall back on the authority of the system to support them.

Both Caroline and Patti needed constant reassurance that they were doing well, however, right from the start Joy was involved in creating a situation where she could relate to children on her terms. She was breaking new ground where there were few guidelines so she set her own goals and was less concerned about achieving external praise and approval than Patti or Caroline.

In *Letters to a Young Poet*, Rilke advises, "We are solitary. We may delude ourselves and act as though this were not so. But how much better to realize that we are so, yes, even to begin by assuming it" (in Greene, 1967, p. 30). Joy recognized that each of us is essentially in this life alone and realized how important it is to build up inner resources to face life's many challenges. Patti and Caroline have yet to reach this understanding.

Someone Cares

As Joy, Caroline and Patti thought over what had been meaningful in their own education, it was their encounters with teachers who really cared about them. It was the teachers or professors who had taken a real interest in them as people, had excited them about learning and had touched their lives in unforgettable ways. Each of these teachers wanted to touch the lives of children they worked with, to let them know someone really cared.

They felt "knowing the learner" was a high priority. Large numbers work against getting to know individuals and initially Joy was frustrated by the size of her class and the multiple demands on her time that interfered with really getting to know her 30 students. Although Patti also started with 30 students, she was able to get to know them more quickly as small groups of five or six children came in for a half day orientation the first week of school. This gave her time to interact with each child on an individual basis, find out interests, abilities and needs. By the time the whole group came together on the fifth day of school, she had already been able to develop a personal relationship with each of them. Perhaps if Joy had been able to have a staggered enrollment for the first few days, she would not have felt so overwhelmed in her attempts to get to know her class as individuals. Then, knowing more about each learner's needs and interests, she might not have been so frustrated in her attempts to plan appropriate activities. This would have enabled her to relate to her class in a more personal and caring way right from the outset of school.

Struggle for Control

Upon entering a new school, the beginning teacher is faced with many unknowns. She may be aware of formal lines of communication and procedures, but most schools have informal communication links and customs that play a significant role in how the school operates. This informal organization is familiar and taken for granted by the existing staff, but can be confusing and disconcerting to the new teacher. Into this established milieu the new teacher brings her own beliefs and hopes for what education should be for herself and her children. These beliefs may be fairly consistent with the existing climate or they may be in opposition. In the latter case a tension may arise between what the new teacher feels she is expected to do and what she believes is right for her to do.

In a similar way there was a struggle for control within each teacher's classroom. Occasionally this was a struggle between the children and the teacher, but most often it was a struggle within the teacher as she sought to create a caring classroom atmosphere in which children were free to take some responsibility for their own behavior and activities, while at the same time respecting the rules and regulations established by the school.

In *Erosion of Childhood*, Val Suransky (1982) explores how institutional settings influence a child's mode of being in the world. Rather than enabling a child to "become at home in his world" the child is often expected to "fit into a structure imposed and named by adults." In a similar way a beginning teacher may feel she must fit into a structure already implemented by the institution (school) she has just joined. Each school has certain standards, rules and regulations that must be adhered to by both the teachers and the children.

For beginning teachers it is especially difficult to work out a balance between establishing enough control over the situation within their classroom so that everyone's needs, including the teacher's, are respected, while at the same time providing their students with enough freedom to participate in making decisions about what their day is going to be like.

In *The Child and His Image*, Yamamoto states, "Children do need limits, and they will test and probe to find where the limits will finally be consistently placed in their lives." (1972, p. 125) Once children have identified with external controls administered by consistent, loving adults they are able to develop internal controls. If the children have been involved in developing limits and understand why they are necessary, they are more likely to internalize them than if the same limits are imposed on them by the teacher. The first procedure shows a respect for children's ideas and behavior, while the second implies a lack of faith in children's ability to think and act responsibly. In Patti's and Caroline's Kindergarten classes, limits were established at the beginning of term while Joy and her class spent much of the fall searching for appropriate limits. Perhaps it was this joint searching and/or the maturity of the grade twos that resulted in more indications of internalized self-control in the grade two class by the end of the year.

Uncertainty Can Lead to Distress

Although stress is commonly thought of as an undesirable state, stress can be pleasant or unpleasant. Recognition for an achievement, meeting an interesting person, or moving into a new home, are usually pleasant experiences in which the accompanying stress enhances a person's life. However, unpleasant experiences such as losing one's job, experiencing the death of a loved one, or becoming frustrated because one is unable to carry out some activity, almost always results in a distressful situation. While stress, pleasant or unpleasant, can stimulate a person to achieve

greater excellence or overcome some difficulty that fills her with a sense of satisfaction and well-being, a high level of stress requiring an unusual amount of effort over a prolonged period of time may eventually lead to frustration and exhaustion; clearly a distressful experience.

Each teacher in the study experienced a degree of stress as she met her new class in September. For Patti and Caroline it was a low level of stress as they met with small groups of new students and began to establish rapport with the class and came to know and understand individual children. For Joy it was a high level of stress as she was faced with 30 new children all at once, with little opportunity to interact with them as individuals. She sensed there was a wide range of academic abilities, and visually she could see there was a wide range of cultural backgrounds that would likely mean more differences. Had Joy been able to get to know her children in the first few days, she would have experienced less uncertainty about what activities were appropriate for her class and what needs various individual children had. However, she also had to devote much of her attention to becoming familiar with school procedures and the grade two curriculum. As the days passed she began to experience frustration at not really knowing what skills individual children had and being unable to gear her lessons at appropriate levels for the range of abilities. With 30 children and the possibility of more, Joy's principal appeased her concern over her class size by indicating he would likely establish a new grade two/three split to relieve the pressure of numbers. Throughout September as new children arrived and some left, the proposed split was on one day and off the next. This added uncertainty further frustrated Joy as she struggled to become familiar with the curriculum, get to know the children, and develop a satisfactory level of classroom control. If part of her class was going to be transferred to another room in the next few days, on what should she spend her limited time? Which children would she have? Should she start a new unit, consider a new way of organizing her classroom, or should she adopt a holding pattern until a decision was made? While the proposed split promised a more manageable situation, the indecision and her powerlessness to have any effect on it made it difficult for Joy to formulate a clear plan of action. As the uncertainty continued, Joy experienced considerable distress. At times she wondered if the children were getting anything out of being at school.

As Joy experienced frustration and exhaustion, it eventually led to self-doubt. "Sometimes I really wonder if I'm in the right space. Maybe I'd be a lot better tutoring or something like that" (83.01.18). She never doubted her commitment to, and caring about children, but she did wonder at times if she would ever "get it all together." In January her conversations were punctuated with questions and negative feelings: "have they learned anything? I'm not happy with my centers. I really wonder what the parents think about the reading program? . . . sometimes I feel at such a loss." There was little sense of accomplishment and achievement. The uncertainties of the fall had left her discouraged and ambivalent about returning to her class in January. While an optimal level of stress can be stimulating, a high level of stress experienced over a prolonged period of time, can lead to a sense of hopelessness that may eventually result in giving up.

They Need Help, But What is Help?

While a dictionary definition of help includes "to give assistance, to aid, to support, sustain, succor, relieve," what was actually helpful to the three teachers in the study? In what ways did people attempt to provide help to these beginning teachers? When help was given, was it necessarily seen as helpful by those receiving it?

For Patti and Caroline formal evaluations by their principals served as a source of support. They saw them as important indicators that they were doing a good job. "It was like a midterm at University. If you get a good mark you know you're on the right track." Even though Joy had also received a positive evaluation from her principal it was not particularly significant to her. "The successes of the children are my successes." When the children were excited about their accomplishments this provided support for Joy.

For two of the teachers in the study a "buddy" was assigned by the principal. In Joy's case it was the teacher who had taught grade two the previous year, while for Patti it was the "other" Kindergarten teacher. Both Joy and Patti had definite ideas of how they wanted to organize their program and relate to "their children" which were quite different from those of their "buddies." Due to many joint activities in the Kindergarten, Patti and her buddy Marj were continually in contact and forced to make mutual decisions. Almost immediately, Patti realized their philosophies were very different and while she was willing to compromise on a few points, there were many on which she would not. It was difficult for Patti to develop a feeling of trust towards a person whose beliefs about children and working with them were so different from hers. If we are sincerely concerned about each new teacher creating her own reality, we need to provide support carefully. There is a very fine line between supporting a person to "become" a teacher in her own way, and supporting them to "become" the kind of teacher the professor, the principal or the "teaching buddy" thinks she should be.

For Patti, the other new teacher at the school became her "unofficial buddy." They had experienced a similar orientation in their University Teacher Education Program, but most importantly, they were "going through exactly the same kind of things." They were both new to the taken-for-granted operation of the school, they were both very busy, and they both wondered "are we ever going to fit in?" This informal "buddy relationship" between the two new teachers was much more supportive than the structured "buddy" system. After all, it was less threatening to admit to another neophyte that you had doubts, did not get something done or found someone on staff totally unreasonable, than to share these concerns and doubts with someone who seemed to have everything under control and might judge you as incompetent.

If one were to credit voluntary comments as more significant than the solicited responses, for Patti, the most important support came from the other new teacher at the school, a continuing relationship with the researcher, and the belief that the principal did care what was happening in her room. In each case Patti trusted "the other person" and felt they were interested in her as a human being, willing to share in her joys and her concerns, and was there on a regular basis. For Caroline, one is left with "every first year teacher should have a warm, positive sweet teacher like Mary for a buddy," along with Caroline's feelings towards her principal: "She is one hundred percent supportive—she never overwhelms or overburdens, and I feel I could talk to her about anything." Support for Joy came from the feeling that her principal believed in what she was doing, as well as from the growing sense of responsiveness and accomplishments of her students. In each case important support came from those who had taken an interest in each teacher as an individual human being and were there when they needed them. While many of the "laid on" inservices and formal arrangements were pleasant, they did not provide a personal involvement in the particular needs and apprehensions of the individual teacher.

When people offer to help others, they need to consider carefully what help means, who they are helping, and what kind of help is needed if they are to avoid the unfortunate results of the following nature lover.

The butterfly is a beautiful and active creature. In its process of metamorphosis, it emerges from the pupa. It puts up a tremendous struggle to break out of its chitinous shell.

A nature lover, once noticing this, thought that the creature should be saved the struggle. With great dexterity, he used a scalpel to cut away the shell. Then the butterfly emerged without a struggle.

But it was lame; it could not fly. (Source unknown)

Perhaps help should be offered only if we take time to know and understand the creature we are attempting to help. Then we may be less apt to interrupt the necessary struggle of becoming.

Experiencing Time Within the World of Doing

If you have ever been at a three-ring circus, you will have some idea of how the beginning teachers in the study felt. Remember how you just became totally engrossed in the events of one ring when those of another caught your attention and drew you away from the first. Then ring three commanded your attention. What should have been an exhilarating experience turned into one of frustration. There is just not enough time to take everything in and you are left pulled in many directions. Similarly, a beginning teacher may just begin to plan her program when she realizes that she must come to understand her children better if she is to plan suitable experiences. As she switches her attention to getting to know her class, a memo from the office reminds her of a meeting, a parent conference, or some clerical task to be done. How difficult it is to find enough time to keep every "ring" running smoothly. She feels pulled in many directions and finds it hard to accomplish all those things educators must do.

A beginning teacher must also learn to conform to the institutional constraints which are largely taken for granted by those teachers already established in the system. Even though each school develops its own unique pattern of time demands, all schools must conform to some culturally regulated time constraints.

Each of the teachers was initially overwhelmed with all the things she had to do and how much time they all took. There was a tendency for each of them to spend all the time she had on school work in an effort to get things as close to perfect as she could.

Inevitably a teacher's first year requires a great deal of preparation, along with considerable thought about the classroom reality she is creating. Is it reasonable to expect beginning teachers to establish work patterns that enable them to have both a satisfying personal and professional life?

Each of the three teachers in the study were striving for perfection—mostly for their own self-fulfillment, but partly because of the tight job market. Would any first-year teacher *less than perfect* be offered a continuous contract?

As neophyte teachers enter the field, is it realistic that they should expect to attain perfection that very first year? Does this force them into a frenzied pace of activity and work that may result in them being burned out within a few years? Much of the literature on burnout shows that it is most often the dedicated, committed teacher who suffers from this malady.

It may partly be the beginning teacher's unrealistic view of what is really possible, but I feel the situation they find themselves in adds to this unrealistic expect-

tation. Patti was expected to be “just as good as” the other Kindergarten teacher who’d been teaching five or six years. Joy was expected to cope with a large, extremely diverse class. Caroline was expected to adjust to a new group of students at an unfamiliar age level along with her Kindergarten class and theme group. Certainly their principals, and some staff members were conscious of their neophyte status and assisted them in many ways. However, generally new teachers are expected by staff, students and parents to do as well as the experienced teacher. They are expected to use their time and skills just as efficiently as experienced teachers so the school will continue to run smoothly and children will subtly learn to cope with “clock time” as they engage in their studies. Is it possible, then, to urge first year teachers to have realistic expectations of themselves, even if they are less than perfect; to pace themselves so they only do so much this year and leave some of those “neat ideas” to try next year; to reserve time for themselves so they remain healthy, happy and enthusiastic?

Reflections on the Meaning of the Study

As a member of a Faculty of Education, it was an invaluable experience for me to have an opportunity to become part of three different schools and thus gain an understanding of current teacher concerns, community expectations and children’s interests and problems. My involvement put me in touch with the reality of the teaching world in the eighties.

Although each beginning teacher is unique and will experience her first year in a uniquely individual way, I did feel I had come to a better understanding of what it was like to be a beginning teacher of young children. From this experience, and having regard to Tardif’s (1985) findings, I feel I can make some pertinent suggestions for Teacher Education Programs.

The Beginning Teacher as Stranger: From Student to Teacher

While it is impossible to prepare students for each individual school situation, I do feel it is important for new teachers to consider themselves as a stranger to the school, and realize there are many taken-for-granted procedures and attitudes they need to become aware of. Often beginning teachers get so engrossed in working with “their class” that they tend to overlook their role as part of the school staff and begin to feel isolated. I suggest as teacher educators we have a responsibility to explore with our students their broader role and develop positive ways of approaching a new situation. For example we could discuss the importance of seeking out an ally that one could trust to share one’s ups and downs and questions with.

There seemed to be a place for much closer liaison between University staff and their graduating students. The new teachers often took new ideas from University courses with them into their schools. At times these were not readily accepted by existing staff and the new teacher was left questioning their validity. If we, as teacher educators, are sincerely interested in our students as well as committed to promoting our ideas in the school system, we need to be more available to first year teachers. If they find themselves trying out a new idea in an alien territory, or questioning the existing practices, they know they can call on someone who at least shares the same perspective. If we developed more collegiality among students in our courses we could encourage more networking among first year teachers so they could be of more support to each other. We could link senior undergraduate students with first year teachers with benefits to both. The fourth year student could gain a better understanding of the first year teacher’s experiences while the latter would have an interested listener.

"I'm a Real Teacher at Last"

Becoming "a real teacher at last" was both exciting and traumatic. Now there were so many decisions to make, so many non-teaching tasks to be carried out, numerous people to interact with, and routines to establish. In student teaching many of these concerns had been taken care of by the "real" teacher. Tardif relates that the student teachers in her study "expressed resentment that they were unable to establish their own class climate and had to act within the social boundaries of the classroom as defined by someone else." (Tardif, 1985 p. 143) Somewhere within the four year Bachelor of Education program we need to give our students an opportunity to be real teachers. Part of the practicum experience could involve groups of students establishing summer programs where they take full responsibility for planning, setting up and running a program. They would be required to make the decisions, interact with the parents, establish the routines. For the teachers in this study, it was such experiences that gave them an assurance that they could "handle the situation." If such a proposal was not deemed feasible, perhaps we should make this type of experience a prerequisite to entering, or graduating from, the Faculty of Education.

Through my involvement with these teachers, I feel they were prepared to interact with children and plan curricular activities; however, there is so much more involved in teaching. They were required to interact with colleagues, with aides, with supervisors, with parents. They had to organize their overall program, work out balanced schedules, contend with committees, meetings and extracurricular activities. They had to sort out professional and personal responsibilities and develop a reasonable balance in their own lives. Although it might be easy to dismiss all these activities as personal-people skills and not our responsibility, I suggest they are crucial to the success or failure of a beginning teacher. Perhaps to emphasize how important they are, we need to develop a Department of Human Life Experiences where we focus on self-understanding, human relations, group dynamics, communication, life management skills, and overall personal fitness. Better still, we should incorporate these experiences into all of our existing departments and course offerings and truly transform teacher education.

Someone Cares

While Tardif's student teachers seemed most concerned with "taking the class through the lesson" the first year teachers in my study seemed more concerned about the individual child. A message that came through clearly in my study was how important it was to make a genuine effort to come to know each individual student in his or her uniqueness. Perhaps this is a different orientation in secondary and early childhood education, perhaps it accompanies the transition from student teaching to becoming a real teacher.

While I realize one instructor cannot be everything to everyone, I am committed to making more time for personal encounters with individuals and small groups of students, to find out what things are important in their lives and in what way I can help them in their becoming a teacher. I feel I can promote a caring atmosphere in my classes where students are encouraged to share, cooperate and develop a heightened awareness of each other as unique human beings. I trust that through experiencing a caring attitude, they in turn can provide a caring atmosphere for their pupils.

Struggle for Control

As an educator, I believe there are many ways of effectively interacting with children and engaging them in meaningful learning experiences. I suggest teachers should be encouraged to develop a teaching style that is compatible with their beliefs and their strengths. However, if a beginning teacher expects to have the freedom to develop her own style and methods, she must be able to put forth a well thought through rationale backed with practical assurances that she can handle it. It is clearly our responsibility as teacher educators to ensure that each of our graduates is able to do this. Then they will be in a position to test out and defend their beliefs against other approaches, and not necessarily give in to the current norm. However, along with a sound theoretical and practical foundation, they also need to develop an appreciation for other perspectives.

Regarding the struggle for control within the classroom, I became more aware of subtle differences between external and internal control of children. Upon walking into each of the classrooms in January, I observed children busily engaged in a variety of activities. Most of the children were aware of limits and acceptable behavior and generally adhered to them. The underlying difference was that in one classroom, the rules for acceptable behavior had evolved jointly over the year and were based on doing or not doing certain things because the children felt it was disruptive or desirable, or unfair. Although in the other two classrooms the teachers had discussed with the children why certain behavior was acceptable or not acceptable, the limits were externally imposed by the teacher and the children adhered to them out of respect or love for their teacher. I think it is important to explore these differences in control with students so they can be more aware of how they are handling it in their classrooms. Do they expect their students to behave in a certain way to please the teacher, or do they want their students to behave in a certain way because it makes them feel good to respect others' rights or to work quietly at a problem? The student teachers in Tardif's study seemed more concerned that they keep the students "under control" whereas the first year teachers were more willing to negotiate suitable behavior with their students.

Uncertainty Can Lead to Distress or to Creative Opportunities

It would not be healthy to remove all stress from our lives, but too many changes and too much uncertainty led to distress for two of the teachers in the study. Although Joy experienced considerable uncertainty in the fall in her teaching responsibilities, she had a very supportive, stable home life and an inner strength which helped her deal with the many changes she was experiencing at school. On the other hand, as Caroline's teaching situation became most demanding, her personal life was in turmoil and her sense of self-worth was low which added further distress to her life. While there may be little we can do in preservice education to prepare teachers for all the change and uncertainty they may encounter in their first year, I feel some of the uncertainty could be overcome by more "real teacher" experiences and more focus on human life experiences.

Within the study of human life experiences, students could examine change and uncertainty as opportunities for constructive confrontations leading to new approaches and new solutions to problems. They could explore ways of developing inner resources that would enable them to meet the challenges and use them as an opportunity for growth. They need to understand that stress and uncertainty are part of human aliveness and should be seen as opportunities for growth.

They Need Help, But What is Help?

I ended this theme with the following statement: "Perhaps help should be offered only if we take time to know and understand the person we are attempting to help. Then we may be less apt to interrupt the necessary struggle of becoming."

To me, as a teacher educator, this means that we need to know and understand the students we are attempting to "help." Much as I would urge my students to get to know individual children so they can plan activities that will stimulate them to grow and learn, I too need to do the same. As a faculty consultant we need to find out what student teachers are aspiring to do and in what ways they feel they need support. We must however, remember that help is not necessarily making things easier for someone. In fact, to help someone become the teacher they are capable of being, one's role might be to pose challenges, question procedures, all the while letting them know you are genuinely interested in their becoming the teacher they aspire to be.

Before beginning teachers can seek help, they must be able to realistically evaluate how they are doing and what their needs are. Self-evaluation may be one of the most important experiences we provide for education students. For although we can expose students to the many sources of help that may be available once they start teaching, these will be of little assistance to them unless they can clearly identify in what way they need help, along with the willingness to ask for it. The help the teachers in the study found most supportive was usually close at hand, such as a principal or another teacher who took a genuine interest in what they were doing and could offer help appropriate to the need. If new teachers are to benefit from this source of help, it is important that they view asking for help as a healthy sign of self-understanding and realistic self-appraisal, rather than as a sign of failure.

Experiencing Time Within the World of Doing

The dilemma the teachers in the study experienced in relation to time is shared by many educators. One never stops being an educator. One's life becomes involved in the process. How can we ensure there is enough time for renewal in our lives that we will have the energy, vitality and understanding to inspire our students to become eager learners of life itself. Unfortunately we too often get caught up in the world of doing so many things that we have no time to experience life itself. Let us heed Barth's words

The quality of being is more important than the quality of knowing; knowing is a means of education, not its end. The final test of an education is what a man *is*, not what he knows.

Concluding Comments

This study has caused me, as a teacher educator, to reflect upon all that I do in my relations with students in the preservice phase of their program. I trust that it will engage you, the reader, in reflecting upon your interaction with beginning teachers, whether it be as colleague, principal, consultant or teacher educator.

Notes

1. This article is based on research done for a doctoral dissertation by the same title.
2. "She" will be used throughout this paper to refer to teachers as all three in the study were female.
3. Dates provided for quotes of the participants refer to dated observations and interviews recorded in the researcher's field notes.

References

- Applegate, J. (1977). *The first year teacher's changing perceptions*. A paper presented at the American Education Research Association in New York.
- Barth, R.S. (1980) Teaching: The Way It Is/The Way It Should Be. *Grade Teacher*. 85, 90-101.
- Bond, G. W., & Smith, G. (1967). The first year of teaching. *The National Elementary Principal*, 47, 55-59.
- Buber, M. (1967). Between man and man. In M. Greene (Ed.), *Existential encounters for teachers*. New York: Random House.
- Castle, K. (1980). *Bridging the gap: The beginning years*. Oklahoma State University.
- Collins, M. (1969). *Students into teachers: Experiences of probationers in schools*. London: Routledge & Kegan Paul.
- Combs, A., Avila, D., & Purkey, W. W. (1973). *Helping relationships*. Boston: Allyn & Bacon.
- Eddy, E. (1969). *Becoming a teacher: The passage to professional status*. Columbia University: Teachers' College Press.
- Edelman, M. (1975). The political language of the helping professions. In *Politics and Society*.
- Edmonds, E. L., & Bessal, F. (1979). *First class: A survey of Canadian teachers in their first year of service*. Project report.
- Felder, B. D. (1979). *Problems and perspectives of beginning teachers: A follow-up study*. (ERIC Document Reproduction Service No. ED 201 595)
- Geertz, C. (1973). *The interpretation of cultures: Selected essays*. New York: Basic Books.
- Greene, M. (Ed.). (1967). *Existential encounters for teachers*. New York: Random House.
- Greene, M. (1973). *Teacher as stranger*. Belmont, CA: Wadsworth.
- Hawke, D. (1980). *The life world of a beginning teacher of art*. Unpublished doctoral dissertation, University of Alberta, Edmonton.
- Katz, L. (1977). *Talks with teachers*. Washington: National Association for the Education of Young Children.
- Lacey, C. (1977). *The socialization of teachers*. London: Methuen.
- Nash, D. (1963). The ethnologist as stranger: An essay in the sociology of knowledge. *Southwestern Journal of Anthropology*, XIX, 149-167.
- Newberry, J. M. (1978). The barrier between beginning and experienced teacher. *The Journal of Educational Administration*, 16, 46-56.
- Patton, M. Q. (1975). *Alternative evaluation research paradigm*. Grand Forks, ND: University of North Dakota.
- Rist, R. (1980). Blitzkrieg ethnography: On the transformation of a method into a movement. *Educational Researcher*, 8-10.
- Ryan, K. (Ed.). (1970). *Don't smile until Christmas*. Chicago: The University of Chicago Press.
- Ryan, K., Newman, K., Mager, G., Applegate, J., Lasky, T., Flora, R., and Johnson, J. (1980) *Biting the Apple: Accounts of First Year Teachers*. New York: Longman, Inc., 1980.
- Southwell, J. L. (1970). Teacher aids teacher, Beginners prefer help from their experienced colleagues. *Clearing House*, 45, 104-106.
- Suransky, V. (1982). *The erosion of childhood*. Chicago: The University of Chicago Press.
- Tardif, C. (1985). On becoming a teacher: The student teacher's perspective. *The Alberta Journal of Educational Research*, XXXI(2), 139-148.
- Tisher, R. (1979). *Teacher induction: An aspect of the education and professional development of teachers*. (ERIC Document Reproduction Service No. ED 200 515)
- Yamamoto, K. (Ed.). (1972). *The child and his image*. New York: Houghton-Mifflin.

BOOK REVIEWS

GIVING TEACHING BACK TO TEACHERS—A CRITICAL INTRODUCTION TO CURRICULUM THEORY. *By Robin Barrow.* London, Ontario: Faculty of Education, University of Western Ontario, 1984, 320 pp.

The central thesis of Robin Barrow's most recent book on curriculum theory is that the field fails to advance because it suffers from the delusion that it is possible to establish an empirical base for curriculum and teaching. To overcome this delusion, Barrow argues for more conceptual thinking, especially about the purposes the school should seek to attain. By conceptual thinking, Barrow seems to imply that discourse about curriculum should be grounded in rational thought about what ought to constitute a curriculum. In particular, Barrow argues that such thought ought to be devoted to what we should teach and why, rather than to developing models for curriculum design.

There is sufficient truth in this thesis to allow a skilled polemicist to dismember the entire domain of empirical research in education. For, make no mistake, this book is more of a polemic than anything else. Barrow's plea for clear thinking as a substitute for empiricism is very sparsely illustrated by examples of the product of such thought. The book is much more of an attack than a critique, in that the author places a much greater burden of proof on those he criticizes than on himself as critic. More important, it is difficult to find anything but vague references to what is proposed as the alternative to empirical research. Barrow seems to believe that clear thinking and logical coherence ensue simply from the use of these terms liberally throughout the text. To say that empirical research is no substitute for clear thinking, or that it obfuscates rather than enlightens, has some truth but is a trivial statement unless the reader can be convinced that advances in curriculum theory can be achieved by some alternative form of analysis, especially pure rationality, as Barrow advocates.

Barrow obviously intends to provoke. If that were his only aim one could accept such a polemic for what it is. However, he also intends that the book be treated both as an introductory text and as a contribution to scholarship. We must therefore ask the more important question of whether the work deserves to be taken seriously. What do we learn about curriculum theory from Barrow's exposition? Unfortunately, we seem to learn more about what it is *not* than what it is.

First, we learn that Barrow believes that it is false to treat curriculum design as an applied science. He is highly critical of curriculum models (dismissing them as either trivial or incomprehensible), of planning from objectives, and of evaluation. He suggests that we should set aside the very concept of curriculum design. Instead, he proposes that curriculum is something that should be "thought about and under-

stood." Again, he argues that curriculum design is an impediment to clear thinking, but at no point does he indicate what constitutes clear thinking or what the outcome of such thinking could be.

In his chapter on Content, Barrow describes, and dismisses, most of the current starting points for decisions about curriculum content. The concepts of intrinsic value, relevance and usefulness, needs and interests, and training the mind are quickly dispatched. Unfortunately, his own prescription, derived from the concepts of knowledge and culture, is equally quickly expounded, and is justified on grounds that are uncomfortably close to the idea of intrinsic value which was earlier rejected. Although Barrow has discussed curriculum content in another volume, the failure to develop his argument further in this book contributes to the imbalance between criticism and alternative prescription which characterizes the book.

Barrow devotes his most detailed criticism to educational psychology and research on teaching. Again, the primary argument is that a thorough understanding of what we teach and why is preferable to the concern with method which characterizes these fields of research. The notion that poor school performance may have multiple causes is dismissed as vague and unsatisfactory. The possibility that this may be the truth of the matter is not considered, nor is any idea given as to what sort of knowledge may be more precise and satisfactory. The critique of research on teaching is even more pointed. Here, however, the critique suffers not only from failure to suggest a credible alternative but also from inadequate reading of the literature itself. To base a critique of research on teaching primarily on the state of knowledge as summarized in the Dunkin and Biddle volume is to ignore almost everything of importance that has occurred in the past decade. Also, the assumption that research on teaching is inherently concerned with method is a false one. Much such research is concerned with the realities of classroom life the constraints and structural features under which teachers work. There is even some research in this domain which is devoted to Barrow's favorite topics: what we teach and why. To attempt curriculum prescription from knowledge and culture, without considering the classroom realities under which such prescriptions might have to be implemented, is to invite problems that are far more serious than those inherent in the curriculum models or methods studies which Barrow decries.

The dismissal of research on curriculum implementation and evaluation is less detailed but no less equivocal. Barrow believes that it is of little use to know the factors which might influence implementation if we do not have a firm notion of what might be desirable to implement. It is not clear, however, whether he believes that a more "rational" curriculum would be free of implementation problems. The critique of evaluation turns out to be a critique of objective testing and something of a plea for essays. Although this is consistent with Barrow's overall view of empirical research (of which objective testing is seen as an inherent component), it is not clear how this is relevant to the larger problem of curriculum evaluation.

The final chapter on teacher education places the author in the position of the boy in the legend who finally exposed the emperor's nakedness. Barrow argues that much of teacher education is built upon a mound of jargon, models, designs, tests and other paraphernalia which create the illusion of the fully clothed emperor but which, in reality, is largely lacking in substance. It is here that his skills as a polemicist are at their best. There is certainly enough of the emperor's clothes phenomenon in teacher education to justify a critique. Nevertheless, one would expect a serious scholar not only to expose nakedness but to provide at least a simple cloak. What passes for this cloak, in the final analysis, is Barrow's plea, which fin-

ally addresses the point implied by the title, that teachers be granted autonomy. Unfortunately, by the last pages of the book it is much too late for such a plea to have any force. More important, it is not at all evident throughout the book how teacher autonomy is related to curriculum theory. In fact, this seems to contradict the entire argument for a more rational approach to curriculum. The deceptiveness of the title is not the least of the problems in a seriously flawed attempt at analysis.

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ALTERNATIVE PERSPECTIVES ON SCHOOL IMPROVEMENT. By David Hopkins and Marvin Wideen. London: The Falmer Press, 1984, 212 pp.

Compiled, in large measure, from a series of papers presented at a Summer Institute on "Strategies for School Improvement" held at Simon Fraser University during the summer of 1980, *Alternative Perspectives on School Improvement* does offer what its title implies. It is a good beginning. Too often the title is not an accurate reflection of what will be found between the covers of a book. As well, several of the thirteen essays which comprise the body of this volume offer new insights for consideration or novel approaches for addressing well recognized variables in the area of school improvement.

Divided into four sections, the matter of suggesting limits for the concept of school improvement is addressed in the first. Here three writers are included and the papers by two of them, David Hopkins and Richard Schmuck, are insightful and well written. However, the third, one of three not presented at the institute but added at the suggestion of the publisher to "reinforce the international flavor of the book," simply reviews previously published work. Further, this paper is stylistically weak in places which may be a function of the fact that it was written by a Swedish author, Mats Ekholm, and required translation.

At least one substantive omission is apparent in the first section. In fact at no point in the volume is it addressed directly, and it merits notation. That is the matter of external support, from government and the general public, for major modifications to existing practice. Given that some of the ideas suggested in this book would have increased financial requirements and/or changes in degree of involvement by these groups, it is surprising this variable was not addressed.

In section two, four papers are presented, each addressing the involvement of particular groups of participants in the school improvement process. Specifically, the roles of students, teachers and principals are subjected to critical examination. The paper by Jean Reddick raises a matter not often considered in the introduction of an innovation, but sometimes of critical importance to its success, that of insuring the students' successful internalization of the change. Lawrence Stenhouse's essay, one of two addressing teaching improvement, suggests this might be accomplished through teacher adoption of a critical orientation to the quality of their work in much the same way artists improve their practice. The remaining two papers by Joyce and Showers on peer coaching by teachers, and by Michael Fullen on the principal as the gatekeeper in the educational change, discuss topics that

have already been addressed often in the literature on educational innovation, but they are well written and Fullen offers some interesting research ideas at the conclusion of his article.

The third section of the book, entitled "Perspectives on Change," offers relatively little in the way of new ideas for the reader. Ted Aoki's essay which provides an alternate approach to curriculum implementation is insightful and thought-provoking but his contribution is the only bright spot among the four appearing here. The next two contributions by Ken Eltis et al. and Viviane Robinson were included as part of the "international flavor" suggestion mentioned earlier. Eltis and Robinson are from Australia and New Zealand respectively. Unfortunately, both articles are simply of the "this is how we did it" variety that appear too often in the literature, and the Robinson report is not an original work having been previously published in 1982. In the final paper of this section, Runkel and Schmuck discuss, as might be expected, the role Organizational Development (OD) can play in school improvement. Though nothing they say here is in any way new, they do offer a concise, cogent description of their perception of how OD strategy is best applied in a school setting.

Two essays comprise the book's final section. Both seek to identify recurrent themes present in the preceding chapters and to suggest, in some measure, ideas for their application. Philip Runkel selects variety as his common thread and argues by linking it to biological diversity that is not only inevitable, but potentially beneficial and necessary if we are going to adapt successfully to the ever increasing rate of change. Marvin Wideen and Ian Andrews in a more concrete discussion identify four themes: the need for awareness, the need to support and facilitate but not control, the complexity of innovation adoption and the need for diversity. They further suggest selected implications of these themes at the levels of the classroom, teacher, school and supporting agencies.

All matters considered, this volume is a worthy addition to the existing literature on change and innovation as it applies to the schools. True, some of the material appears to have been included primarily in an effort to increase the market for the volume, but the majority of the essays offer sufficient novelty and substance for this book to be a real value to even the very experienced scholar or practitioner concerned with school improvement.

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RESEARCH ON TEACHING IN CANADA: SOME PROJECTS AND PROSPECTS. *Edited by Leslie McLean, Robert Crocker and Philip H. Winne.* Toronto: OISE Press, 1984, 120 pp.

This publication is the report of the conference on research on teaching held at the University of British Columbia in December of 1982. The major goals of the conference were to examine the state of research on teaching in the Canadian con-

text and to foster communication amongst researchers with common interests scattered across Canada.

The report itself is divided into two major sections with an interesting concluding section entitled "Some Loose Ends." The first major section contains reports of five recent research studies while the second major section contains a number of papers which focus upon the future of research on teaching. The last brief section, a rather refreshing one, contains brief expositions of ideas that individuals developed or presented during the actual conference.

The reports of the five research studies reflect the broad but, at times, esoteric interests in the field of research on teaching. The studies were concerned with issues such as the nature and functioning of antecedents and structural conditions that determine classroom events, the language that teachers use when questioning, the attempts of teachers to implement mastery learning with different types of learners, the nature of the interaction amongst teaching methods, classroom organization and pupil behaviors as well as the intentions of teachers with respect to student thinking and the interpretation of the students of those intentions.

The methods used for gathering the data in the various studies were diverse, eclectic and somewhat traditional. Methods used included those of classroom observation in several different forms, standardized student achievement tests and measures of student attitudes, Q-sort, teacher surveys and interviews as well as the use of field notes and time studies to name just a few.

The results of the studies were varied and, at times, confusing. In some instances expectations were fulfilled while in others they were quizzically denied. Some results seemed promising and exciting while others were disappointing and unnerving. In total, the results seem to be partial, very exploratory and perhaps tangential to the significant issues which initiated the research.

Two features noted throughout the reports were the penchant for model building and the differences in theoretical orientation between studies. The delineation of elaborate models may be an attempt to deal with the complexity of the field coupled with the simplistic nature of present research attempts. While some studies reflected the process-product orientation others were strongly influenced by the cognitive-mediational paradigm.

The section of the report dealing with future research on teaching cites a number of problems with the present type of research and proposes a variety of needs and solutions for progress in the field. Two problems with the present research which run as major themes through this section of the report concern the weaknesses of classical research methodologies and procedures for data analysis as well as the partiality and fragmentation of present research findings with little way of interrelating the plethora of information. Due to the complexity, subtlety and size of the field, presently available research techniques appear fragile and naive. Due to the lack of any over-arching theory, the increase of research findings seems merely to add to the confusion rather than show light.

With these problems as a backdrop, a number of needs are cited if progress is to be made in the field of research on teaching. Among these are the need to develop a more global, synthesized and interdisciplinary approach to research, the need to construct theories that are ecologically valid, the need to interpret findings in relation to one another, the need to explore unexamined domains such as the learning of higher-order intellectual tasks and the need to develop models which capture a full range of variables.

The last section of the report briefly presents ideas developed or explored by conference participants. These exploratory “jottings” examine such questions as: How does one emphasize the individual in the research? What influences teacher decisions with respect to teaching styles, techniques and strategies? What about the teaching of handicapped children? How can measures of student achievement be improved? Is a national study on teaching feasible and desirable?

Research on Teaching in Canada would seem to serve a useful function if for no other reason than the fact that it provides a Canadian perspective to an area of educational research that is of international concern. The report also reflects the nature of the field of research on teaching—at one and the same time confusing, promising and developing. While the report provides few direct solutions to the problems of teaching in the classroom, it does reflect the growing interest in the issues. Because of the potential importance of research in this field, the report is worthwhile.

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1. All manuscripts must be typewritten, double spaced, and submitted in triplicate and are not to exceed 25 pages in length.
2. An abstract of approximately 100 words in length, typed on a separate page, is to be included.
3. The author's name and affiliation should appear only on a separate title page to ensure anonymity in the reviewing process; the title of the paper should appear on the first page of the manuscript as a means of identification.
4. Tables must be numbered in Arabic numerals with the word 'Table' centered and in capital letters, e.g., TABLE 4. The heading of the table is to be centered below and typed in capitals. The format of tables should conform to the specifications in the APA Publication Manual.
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10. In matters of style, the third edition of the APA Publication Manual is considered definitive.

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